

TELECO

by  HUAAPTEC

phone  Boostervan





1	Informazioni Generali	3
2	Sicurezza	3
3	Presentazione	3
4	Glossario	5
5	Contenuto della confezione	6
6	Installazione.....	7
6.1	Antenna a “pinna di squalo” esterna	7
6.2	Antenna omnidirezionale interna	8
6.3	Ripetitore o phoneBoostervan.....	8
6.4	Descrizione LED di stato	9
6.5	Alimentazione	9
7	Monitoraggio e controllo del sistema.....	9
7.1	Installazione APP Signal Supervisor.....	9
7.2	Monitoraggio del sistema	10
8	Problemi e soluzioni	12
9	Certificazioni.....	13
10	Specifiche	19

1 Informazioni Generali

Il presente manuale utente descrive il funzionamento, l'installazione, e la configurazione del ripetitore telefonico per mezzi mobili, phoneBoostervan. Prima dell'installazione e configurazione leggere attentamente il presente manuale.

Le informazioni presenti in questo manuale sono soggette a modifica senza preavviso.

2 Sicurezza



Il ripetitore rispetta i parametri di sicurezza relativi ai segnali dispositivi mobili, assicurarsi da avere una buona connessione di massa e proteggere il ripetitore dalla luce solare diretta.



Ogni operazione deve essere effettuata solo dopo avere tolto l'alimentazione e da personale autorizzato.



Non smontare il ripetitore ed i relativi accessori per evitare scosse elettriche.



Non aprire e toccare i componenti al fine di evitare rotture dovute a scariche elettrostatiche.



Installare il ripetitore in ambiente fresco e ventilato al fine di favorire la dissipazione di calore prodotto durante il funzionamento.

3 Presentazione

Il ripetitore phoneBoostervan è progettato per ricevere il segnale delle cinque bande della rete cellulare, 800MHz - 900MHz - 1800MHz - 2100MHz - 2600MHz, amplificarlo e ripeterlo all'interno del mezzo mobile e nelle immediate vicinanze. Il phoneBoostervan integra un sistema di controllo automatico del guadagno, AGC, il quale permette il bilanciamento dei livelli del segnale per un funzionamento ottimale.

Il Sistema è bi-direzionale, l'antenna esterna riceve il segnale della rete cellulare, lo amplifica e lo trasmette mediante l'antenna interna; dualmete riceve il segnale trasmesso dal dispositivo mobile attraverso l'antenna interna, viene amplificato e trasmesso verso la BTS dell'operatore telefonico. Dotato di sistema di controllo del guadagno affinché non vengano prodotti disturbi alle reti degli operatori telefonici, ed evitare disservizi per gli altri utenti.

In Figura 1 è riportato lo schema a blocchi del phoneBoostervan.

NOTA: Il ripetitore telefonico per mezzi mobili amplifica e ripete il segnale della telefonia mobile, questo significa che in caso di assenza di segnale o segnale di scarsa qualità il ripetitore non ha alcuna efficacia.

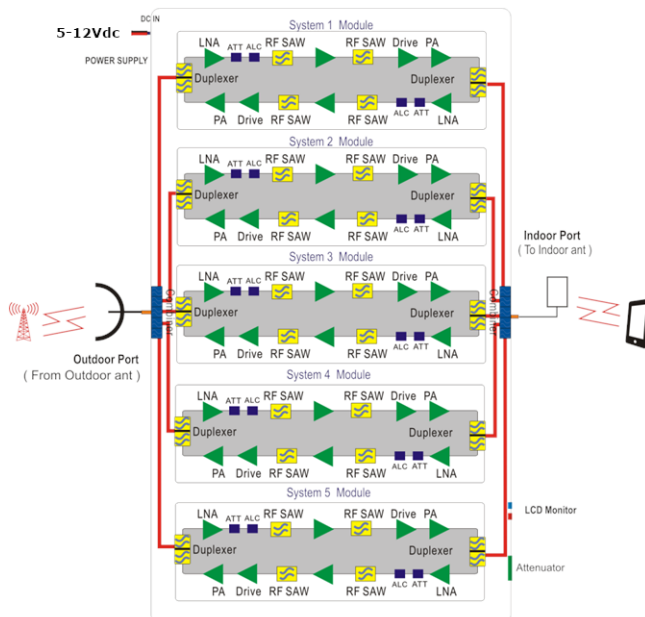


Figura 1. Schema a blocchi phoneBoostervan.

- **CPU dedicata:** la CPU permette di gestire in modo completamente automatico ed intelligente l'amplificazione e distribuzione del segnale nell'area in cui viene installato,
- **ISO:** Sistema Intelligente di controllo dell'isolamento fra l'antenna esterna e quella interna, per evitare il fenomeno di Auto-oscillazione o loop back, al fine di assicurare un segnale privo di distorsioni e per evitare di interferire con la cella dell'operatore telefonico;
- **ALC:** Sistema automatico di controllo del guadagno. Permette di controllare in tempo reale il valore di amplificazione del segnale, mantenendo il livello di uscita e qualità al valore ottimo;
- **SignalSupervisor APP:** app presente nello store **Google Play** per utenti android, **App Store** per utenti iOS, utilizzata per il completo controllo del ripetitore. **SignalSupervisor** permette di verificare l'attenuazione del segnale presente in ingresso, inoltre permette di verificare lo stato di funzionamento delle varie catene di amplificazione;
- **Bluetooth** integrato per il controllo remoto del sistema mediante lo smartphone, utilizzando la APP Signal Supervisor;
- Design ottimizzato per la dissipazione del calore e riduzione dei consumi.

4 Glossario

Termine	Definizione
800	Rete LTE a 800MHz LTE800(832~862MHz/791~821MHz)
900	Rete EGSM900(880~890MHz/925~935MHz) e PGSM900(890~915MHz/935~960MHz), WCDMA/UMTS900(880~915MHz/925~960MHz)s
1800	Rete GSM/LTE1800(1710~1785MHz/1805~1880MHz)
2100	Rete 3G(WCDMA/UMTS2100) (1920~1980MHz/2110~2170MHz)
2600	Rete LTE2600(2500~2570MHz/2620~2690MHz)
RF	Radio Frequenza
ATT	Attenuazione
ALC	Controllo Automatico del Livello (Automatic Level Control)
AGC	Controllo Automatico del Guadagno (Automatic Gain Control)
MGC	Controllo Manuale del Guadagno (Manual Gain Control)
LNA	Amplificatore a Bassa Cifra di Rumore (Low Noise Amplifier)
PA	Amplificatore di Potenza (Power Amplifier)
dB	Decibel
dBm	Decibels rispetto a 1 milliwatt
UL	Uplink
DL	Downlink
Hz	Hertz
MHz	Megahertz
NF	Figura di Rumore (Noise Figure)

5 Contenuto della confezione

	DESCRIZIONE	FUNZIONE
	Antenna esterna a "Pinna di squalo"	Antenna esterna da montare sul tetto del mezzo mobile
	Car Booster	Unità di amplificazione
	Antenna omnidirezionale interna	Antenna omnidirezionale interna
	Cavetto di alimentazione con connettore da 3.5mm	Cavetto di alimentazione con connettore 3.5mm da un lato, e cavi liberi al lato opposto



Figura 2. Descrizione PhoneBoostervan.

6 Installazione

6.1 Antenna a “pinna di squalo” esterna

Installare l’antenna esterna a “pinna di squalo” sul tetto del mezzo mobile, senza ostruirla con apparati che possono risultare schermanti per i segnali a radio frequenza. Collegare il cavo coassiale dell’antenna esterna al connettore SMA femmina “Outdoor” del phoneBoostervan.

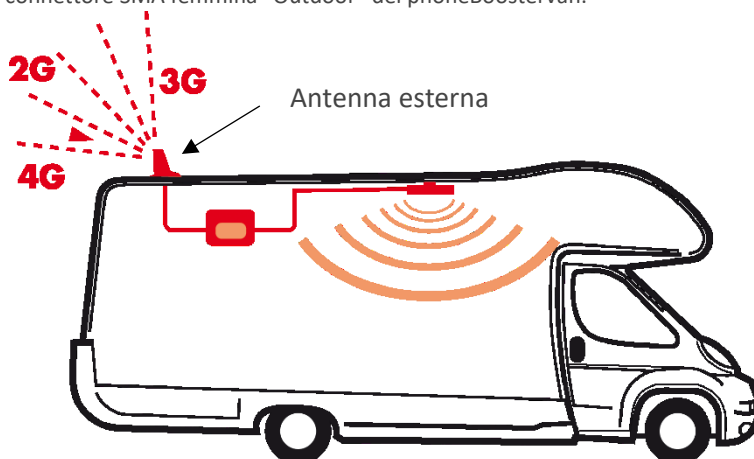


Figura 3. Installazione antenna esterna.

6.2 Antenna omnidirezionale interna

Installare l'antenna omnidirezionale interna, vedi Figura 4, al soffitto del camper, avendo cura di installarla in una posizione intermedia, per poter coprire uniformemente tutto il camper e lo spazio nelle immediate vicinanze. Collegare il cavo coassiale dell'antenna al connettore SMA femmina "Indoor" del phoneBoostervan. Collegare il cavo di alimentazione +12V alla batteria del camper.

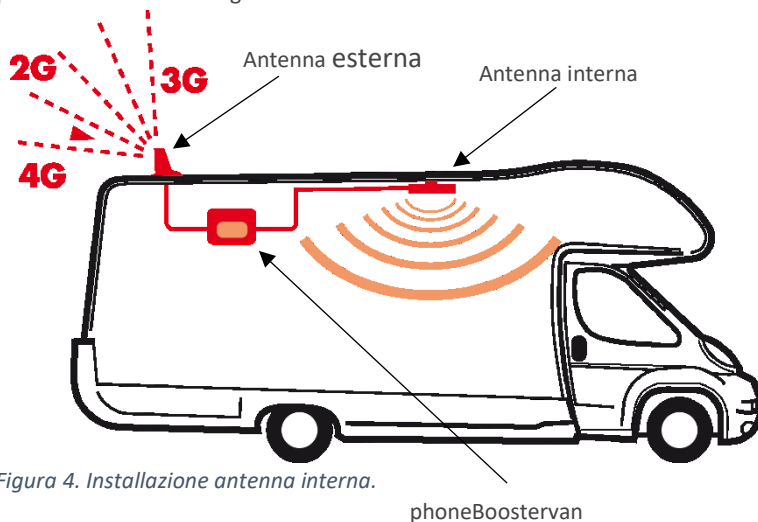


Figura 4. Installazione antenna interna.

NOTA

Il ripetitore integra un sistema intelligente per il controllo automatico del livello dei segnali, AGC; è comunque necessario prima di fissare definitivamente le antenne, verificare che nelle posizioni scelte le antenne siano sufficientemente isolate dal punto di vista RF; se all'accensione del ripetitore la spia rossa di allarme dovesse lampeggiare, vedi Figura 8, spegnere il sistema e aumentare la distanza fra le antenne. Riaccendere il sistema e verificare il corretto funzionamento.

6.3 Ripetitore o phoneBoostervan

Installare il phoneBoostervan in zona ventilata, lontano da fonti di calore e non esposto direttamente ai raggi del sole. Il phoneBoostervan è dotato di tre led di stato, Figura 2, per controllare lo stato di funzionamento del sistema. In Tabella 1 vi è la descrizione dei led di stato.

6.4 Descrizione LED di stato

INDICAZIONE LED DI STATO		
LED DI ALLARME	Blu fisso	Livello di uscita ottimale
	Blu, lampeggiante ogni secondo	Massimo livello di uscita
	Rosso, lampeggiante ogni mezzo secondo	Il phoneBoostervan disconnesso per eccessivo livello di segnale in downlink
LED BLUETOOTH	Blu, lampeggiante ogni secondo	Bluetooth non connesso
	Blu, lampeggiante ogni mezzo secondo	Bluetooth connesso

Tabella 1. Descrizione LED di stato.

6.5 Alimentazione

Collegare il cavetto di alimentazione alla linea +12Vdc, avendo cura di rispettare la polarità, rosso +12V, nero massa.

7 Monitoraggio e controllo del sistema

Mediante una APP dedicata, **Signal Supervisor APP**, è possibile avere un controllo completo e puntuale del sistema utilizzando il proprio smartphone.

La APP la si può trovare in **App Store** per gli utenti iOS, oppure in **Google Play** per gli utenti Android.

7.1 Installazione APP Signal Supervisor

Dopo aver eseguito il download e l'installazione della APP è necessaria la registrazione; inserire un indirizzo di e-mail valido, e attendere la e-mail con il codice di attivazione per completare la registrazione.

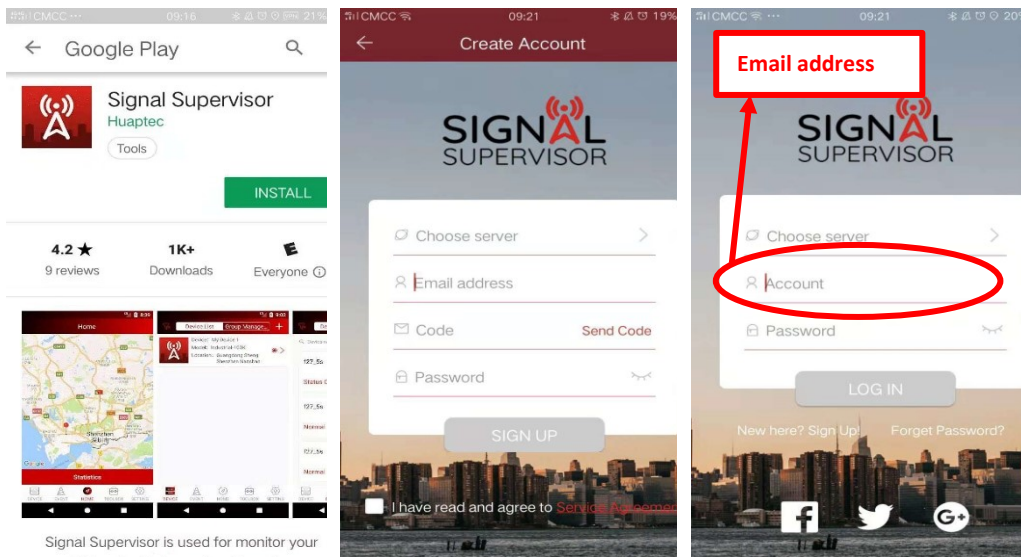


Figura 5.

7.2 Monitoraggio del sistema

Dopo essersi registrati, selezionare “+” per associare un nuovo ripetitore, Figura 6.

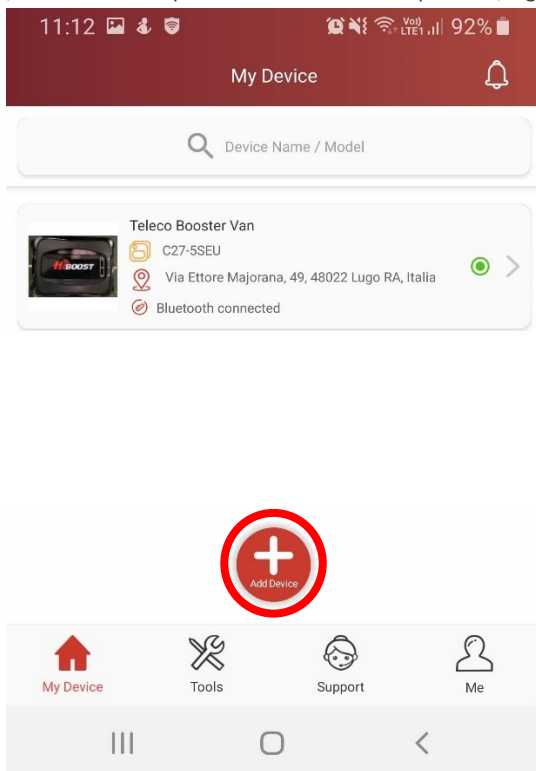


Figura 6.

Selezionare “Next”, Figura 7, e successivamente selezionare il phoneBoostervan che si vuole monitorare. Selezionare il tipo di configurazione ed immettere i dati richiesti. A questo punto selezionando la figura del PhoneBoosterVan si passa ad una schermata di riepilogo da cui è possibile verificare lo stato di funzionamento di ogni singola banda.

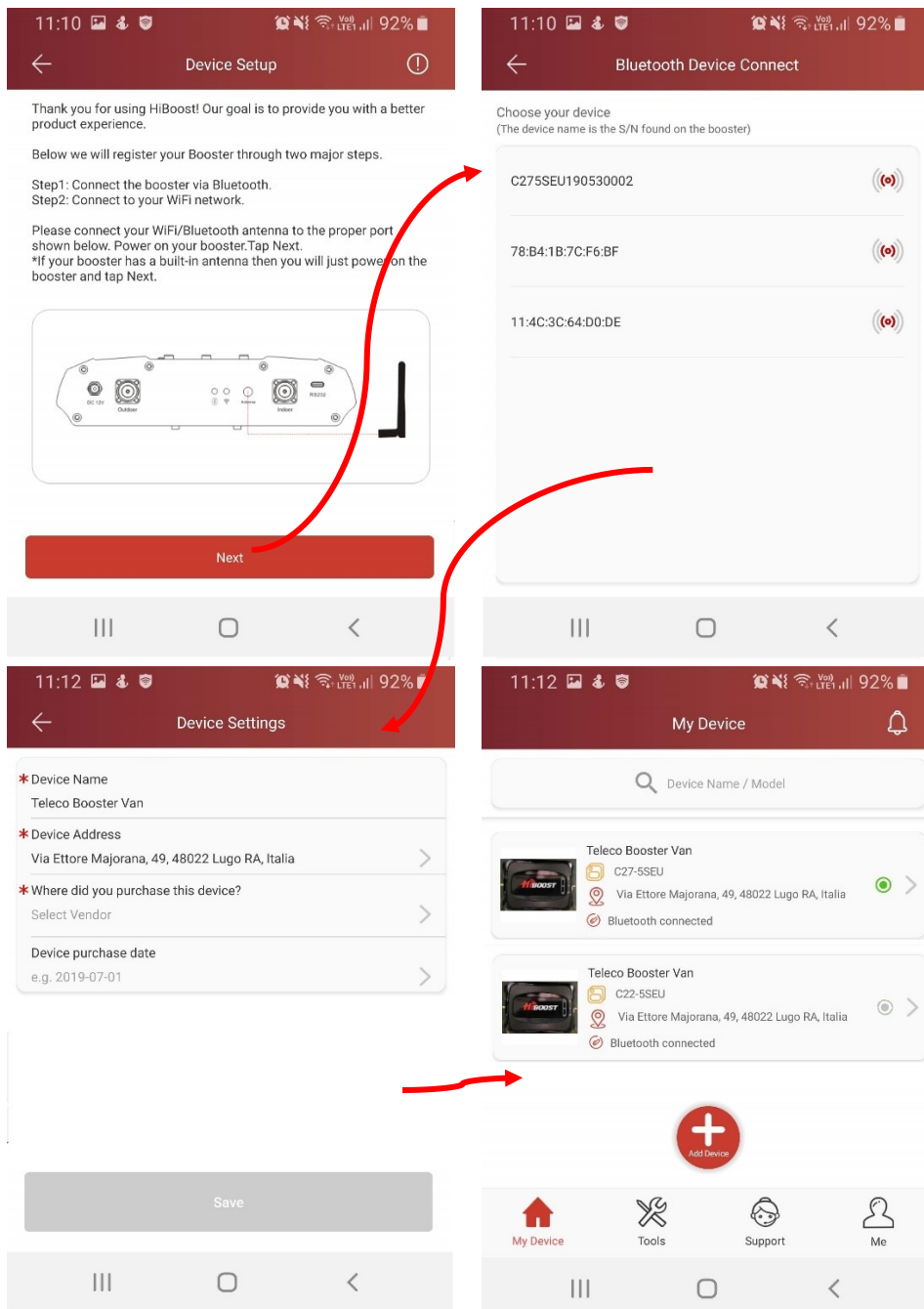


Figura 7.

Nel caso in cui la spia di allarme indicata in Figura 8 risulti essere rossa, viene riportata una condizione di anomalia/malfunzionamento. In condizioni di allarme il ripetitore azzerava automaticamente tutti i guadagni, per non “caricare” la rete di telefonia mobile con segnali di disturbo. In questo caso **MODIFICARE LA POSIZIONE RELATIVA DELL’ ANTENNA ESTERNA E INTERNA ALLONTANANDOLE, IN QUANTO IL SEGNALE DI ALLARME È DOVUTO ALLO SCARSO ISOLAMENTO RF**. Una volta allontanate le antenne spegnere e riaccendere il ripetitore.



Figura 8.

8 Problemi e soluzioni

PROBLEMA	SOLUZIONE
Il ripetitore non si accende.	Controllare il corretto collegamento del cavetto di alimentazione.
Il ripetitore è acceso ma il telefono non si connette alla rete, assenza di copertura.	Verificare la corretta connessione di tutte le parti del sistema. Verificare a sistema spento, se nel punto in cui è fissata l’antenna esterna è presente il segnale di telefonia mobile. Nel caso in cui non dovesse esserci segnale, significa che la zona non è servita dagli operatori di telefonia mobile.
Buono il livello del segnale ma scarsa la qualità.	Verificare eventuali apparati che possono interferire con il segnale telefonico. Verificare la qualità del segnale ricevuto con l’operatore telefonico.
Il sistema è alimentato ma la copertura non è quella attesa.	Verificare se è presente una condizione di anomalia. Collegarsi al ripetitore con la APP e controllare la configurazione dei guadagni delle catene di amplificazione.

9 Certificazioni

	RE e RED Con la certificazione CE dichiariamo che I nostri prodotti sono compatibili con tutte le normative Europee per la salute, sicurezza e salvaguardia dell'ambiente e delle regole RED (Radio Equipment Directive 2014/53/EU) in vigore dal 13 Giugno 2017.
	RoHS Tutti I nostri prodotti sono RoHS compliant e rispettano le limitazioni nell'uso di materiali dannosi.
	Riciclaggio dell'apparecchiatura Nell'Unione Europea, questo simbolo indica che al momento dello smaltimento, l'ultimo utente ad usare l'apparecchio deve conferire il prodotto a un impianto di riciclaggio e recupero. Per informazioni sul corretto smaltimento del prodotto, consultare il contratto di acquisto o contattare il fornitore dell'apparecchio.

Made in China



EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB
Notified Body Number 0700



This is to certify that:
PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

Certificate No.	19-211647a
Manufacturer	Shenzhen Huaptec Co., Ltd
Address	3rd FL, E BLDG, Sogood Science Park, SanWei community, Hangchong Street Bao'an District, Shenzhen, China
Product Description	Vehicle cell phone signal booster; with GSM, WCDMA and LTE
Brand Name / Model Name	HiBoost / C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

The radio equipment meets the following essential requirements

Article 3.1 (a): Health and Safety	Conform
Article 3.1 (b): Electromagnetic Compatibility	Conform
Article 3.2: Effective and Efficient Use of Radio Spectrum	Conform
Additional Essential Requirements:	Not applicable

Date of issue	09-10-2019	Expiry date:	09-10-2019
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This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.
This version of the certificate replaces the certificate 19-211647, which is hereby withdrawn.

The attached Annex forms part of this certificate. This certificate consists of 3 pages.

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Signed by Wayne Hau
Notified Body

PHOENIX TESTLAB GmbH
Königsplatz 10
D-32925 Bielefeld, Germany
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CERTIFICATE of Conformity

Reference No. : LCS190729008DR

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trademark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU,C27G-5S-EU-RV,C27G-3S-EU,C27G-3S-EU-RV

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU

IEC 62321-3-1:2013 IEC 62321-5:2013 IEC 62321-4:2013+AMD1:2017 CSV
IEC 62321-6:2015 IEC 62321-7-1:2015 IEC 62321-7-2:2017 IEC 62321-8:2017

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out. This certificate applies specifically to the sample investigated in our test reference number only.

The RoHS markings as shown below can be affixed on the product after preparation of necessary technical documentation.

Other relevant Directives have to be observed.

RoHS

Date of Issue: January 02, 2019



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Zhongshan LCS Compliance Testing Laboratory Ltd.
No. 23F, Building A, Zhongshan Harbor of IDEAS, No 25 Gangzi Road,
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Tel: (86) 0760-85282955 Fax: (86) 0760-85282908
Http://www.lcs-cert.com Email: webmaster@lcs-cert.com



CERTIFICATE of Conformity

Reference No. : LCS190729019AE

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG,Sogood Science Park, SanWei community,
Hangcheng Street,Bao'an District, Shenzhen, China

Trade Mark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

Opinion on the Essential Requirements

Article 3.1a): Health and Safety	Conform
Article 3.1b): Electromagnetic Compatibility	Conform
Article 3.2: Effective Use of the Radio Spectrum	Conform

CE-marking

Marking Example (Class 1)



This certificate is issued in accordance with The RED2014/53/EU of the European Parliament and the Council and the mutual recognition of their conformity.

September 18, 2019

Date of Issue



Shenzhen LCS Compliance Testing Laboratory Ltd.
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Annex



Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.1.1 (2017-02)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEA
ETSI EN 301 489-50 V2.1.1 (2017-02)		
ETSI EN 303 609 V12.5.1 (2016-04)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEB
ETSI EN 301 908-1 V11.1.1 (2016-07)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEC
ETSI EN 301 908-11 V11.1.2 (2017-01)		LCS190729019AED
ETSI EN 301 908-15 V11.1.1 (2016-05)		
EN 50385:2002	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEE
EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2: 2013	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729020AS

General Remarks:

- This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service.
Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
- This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this Certificate.



Shenzhen LCS Compliance Testing Laboratory Ltd.
101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District,
Shenzhen, Guangdong, China
Tel: (86)755-82591330 Fax: (86)755-82591332
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扫码查询真伪
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Certificate Regulation 10

Certificate No. : 385967TRFEMC

Applicant : TELECO spa
Via Majorana, 49 Lugo (Ra) – Italy

Product Name : PhoneBoosterVan

Trade Name : TELECO

Main Test Model : PhoneBoosterVan

Test Standard : CISPR 25(2002)
ISO 7637-1(2002)
ISO 7637-2(2004)
ISO 11452-1(2005) + A1(2008)
ISO 11452-2(2004)
ISO 11452-3(2001)
ISO 11452-4(2011)

The EUT described above has been tested by us with the listed standards and found in compliance with the council directive **REGULATION 10 Revision 5 with amendment 1**, Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

5 November 2019



10 Specifiche

Parametri RF		Uplink	Downlink
Bande di frequenza	800MHz	832-862MHz	791-821MHz
	900MHz	880-915MHz	925-960MHz
	1800MHz	1710-1785MHz	1805-1880MHz
	2100MHz	1920-1980MHz	2110-2170MHz
	2600MHz	2500-2570MHz	2620-2690MHz
Guadagno Max		50dB	
Livello massimo		25dBm	8dBm
Alimentazione	5 – 16Vdc/500mA		
Impedenza In/Out	50 ohm		
V.S.W.R	≤ 4		
Stabilità in frequenza	≤ 0.01ppm		
Ritardo di gruppo	≤1us		
Rpple	< 13dB		
Figura di rumore @ max Gain	< 12dB		
Temperatura di lavoro	-45/+55°C		
Temperatura di stoccaggio	-45/+80°C		
Umidità relativa	95%		
Dimensioni	171x112x31,5 mm		
Peso	0,55 Kg		
Protezione	IP40		
Antenna Interna			
Guadagno	2,15 dBi		
Frequenza	698 – 2700MHz		
Diametro	160 mm		
Altezza compreso fissaggio	50 mm		
Connettore	N maschio		
Antenna esterna			
Guadagno	2,15 dBi		
Frequenza	689 – 2700MHz		
Dimensioni	85x67x96 mm		
Cavo coassiale 50Ω	Lunghezza 3 metri – N maschio/SMA maschio		

1	Allgemeine Informationen	21
2	Sicherheit	21
3	Vorstellung.....	21
4	Glossar	23
5	Packungsinhalt.....	24
6	Montage	25
6.1	„Haifischflossen“-Außenantenne	25
6.2	Interne Allrichtungsantenne	26
6.3	Repeater - phoneBoostervan	26
6.4	Status der leds.....	27
6.5	Versorgung.....	27
7	Systemüberwachung und -regelung	27
7.1	Installation der Signal Supervisor-APP	27
7.2	Systemüberwachung.....	28
8	Probleme und Lösungen	30
9	Zertifizierungen.....	31
10	Technische angaben	37

1 Allgemeine Informationen

Diese Bedienungsanleitung beschreibt den Betrieb, die Installation und die Konfiguration des für Fahrzeuge bestimmten Mobilfunk-Repeater phoneBoostervan. Bitte lesen Sie diese Anleitung vor der Installation und der Konfiguration sorgfältig durch.

Die in dieser Anleitung enthaltenen Informationen können ohne Vorankündigung geändert werden.

2 Sicherheit



Der Repeater erfüllt die Sicherheitsparameter für Signale von Mobilgeräten. Stellen Sie sicher, dass ein guter Masseanschluss vorhanden ist und schützen Sie den Repeater vor direkter Sonneneinstrahlung.



Alle Vorgänge dürfen nur nach Unterbrechung der Stromversorgung und von autorisiertem Personal ausgeführt werden.



Den Repeater und die entsprechenden Zubehörteile nicht demontieren, um Stromschläge zu vermeiden.



Die Komponenten nicht öffnen und berühren, um Schäden durch elektrostatische Entladungen zu vermeiden.



Den Repeater in einer kühlen und belüfteten Umgebung installieren, um die während des Betriebs entstehende Wärmeableitung zu begünstigen.

3 Vorstellung

Der Repeater phoneBoostervan ist so konzipiert, dass er das Signal der fünf Frequenzbändern des Mobilfunknetzes, 800 MHz - 900 MHz - 1800 MHz - 2100 MHz - 2600 MHz empfängt, dieses verstärkt und dann innerhalb und in unmittelbarer Nähe des Fahrzeugs wiederholt. Der phoneBoostervan integriert eine automatische Verstärkungsregelung, AGC, die den Abgleich der Signalstärken für einen optimalen Betrieb ermöglicht.

Das System ist bidirektional, die Außenantenne empfängt das Signal des Mobilfunknetzes, verstärkt es und sendet es über die Innenantenne; gleichermaßen empfängt es das vom Mobilgerät über die Innenantenne gesendete Signal, welches verstärkt wird und dann an die BTS des Telefonbetreibers übertragen wird. Der Repeater ist mit einem Verstärkungsregelungssystem ausgestattet, damit keine Störungen in den Netzen der Telefonbetreiber erzeugt und Missstände für andere Benutzer vermieden werden.

In der Abbildung 1 wird das Blockdiagramm des phoneBoostervans angeführt.

HINWEIS:Der Mobilfunk-Repeater für Fahrzeuge verstärkt und wiederholt das Mobilfunksignal, Das bedeutet, dass der Repeater bei fehlendem Signal oder einem Signal von schlechter Qualität wirkungslos ist.

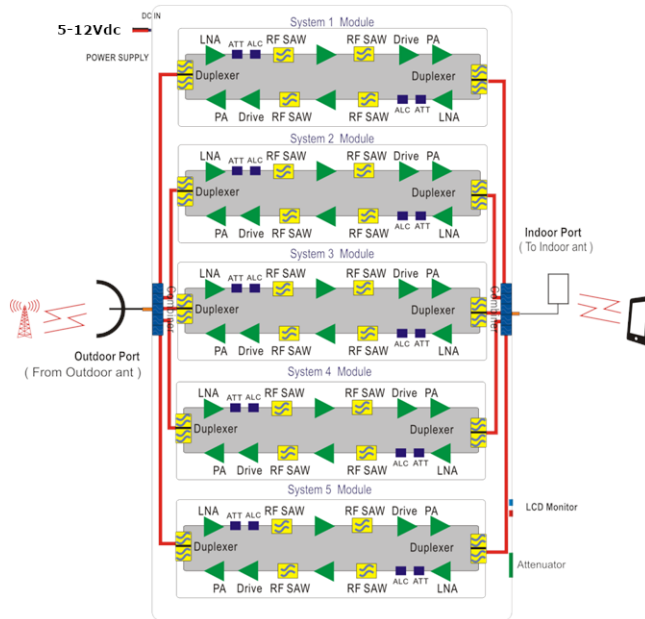


Abbildung 1. Blockdiagramm Car Booster.

- **Dedizierte CPU:** Die CPU ermöglicht die vollautomatische und intelligente Regelung der Verstärkung und Verteilung des Signals in dem Bereich, in dem sie installiert ist.
- **ISO:** Intelligentes Steuerungssystem der Isolierung zwischen der Außen- und der Innenantenne, um das Phänomen der Selbstoszillation oder Schleifenrückführung zu vermeiden, damit ein verzerrungsfreies Signal sichergestellt und die Zelle des Telefonbetreibers nicht gestört wird.
- **ALC:** Automatisches Verstärkungsregelungssystem. Ermöglicht die Regelung des Signalverstärkungswertes in Echtzeit, wobei der Ausgangspegel und die Qualität auf dem optimalen Wert gehalten werden.
- **SignalSupervisor APP:** Im **Google Play**-Store für Android-Nutzer bzw. im **App Store** für iOS-Nutzer bereitstehende App, die für die vollständige Steuerung des Repeaters verwendet wird. **SignalSupervisor** ermöglicht es, die Dämpfung des Eingangssignals zu prüfen. Darüber hinaus kann der Betriebszustand der verschiedenen Verstärkerketten geprüft werden.
- Integriertes **Bluetooth** für die Fernsteuerung des Systems über das Smartphone unter Nutzung der Signal Supervisor-APP.
- Optimiertes Design für die Wärmeableitung und Verbrauchsreduzierung.

4 Glossar

Begriff	Definition
800	Netz LTE bei 800MHZ LTE800(832~862MHz/791~821MHz)
900	Netz EGSM900(880~890MHz/925~935MHz) und PGSM900(890~915MHz/935~960MHz), WCDMA/UMTS900(880~915MHz/925~960MHz)s
1800	Netz GSM/LTE1800(1710~1785MHz/1805~1880MHz)
2100	Netz 3G(WCDMA/UMTS2100) (1920~1980MHz/2110~2170MHz)
2600	Netz LTE2600(2500~2570MHz/2620~2690MHz)
RF	Funkfrequenz
ATT	Dämpfung
ALC	Automatische Pegelregelung (Automatic Level Control)
AGC	Automatische Verstärkungsregelung (Automatic Gain Control)
MGC	Manuelle Verstärkungsregelung (Manual Gain Control)
LNA	Rauscharmer Verstärker (Low Noise Amplifier)
PA	Leistungsverstärker (Power Amplifier)
dB	Dezibel
dBm	Dezibel, bezogen auf 1 Milliwatt
UL	Uplink
DL	Downlink
Hz	Hertz
MHz	Megahertz
NF	Rauschzahl (Noise Figure)

5 Packungsinhalt

	BESCHREIBUNG	FUNKTION
	Außenantenne „Haifischflosse“ mit	Auf dem Fahrzeugdach zu montierende Außenantenne
	Car-Booster	Verstärkungseinheit
	Interne Allrichtungsantenne	Interne Allrichtungsantenne
	Versorgungskabel mit 3,5 mm-Steckverbinder	Versorgungskabel mit 3,5 mm-Steckverbinder auf der einen Seite und freien Kabeln auf der anderen Seite



Abbildung 2. Außenantenne.

6 Montage

6.1 „Haifischflossen“-Außenantenne

Die „Haifischflossen“-Außenantenne so auf dem Dach des Fahrzeugs montieren, dass sie nicht durch Geräte behindert wird, die die Funkfrequenzsignale abschirmen können. Das Koaxialkabel der Außenantenne an die „Outdoor“ SMA-Buchse des phoneBoostervans anschließen.

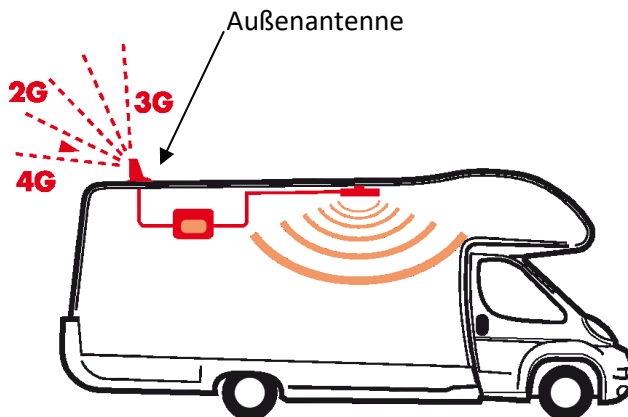


Abbildung 3. Montage der Außenantenne.

6.2 Interne Allrichtungsantenne

Die interne Allrichtungsantenne an der Decke des Wohnmobils montieren, siehe Abbildung 4, wobei darauf zu achten ist, dass sie in einer Zwischenposition montiert wird, um das gesamte Wohnmobil und die in unmittelbarer Nähe liegenden Bereiche gleichmäßig abdecken zu können. Das Koaxialkabel der Antenne an die „Indoor“ SMA-Buchse des Repeaters anschließen. Das +12V-Versorgungskabel an die Batterie des Wohnmobils anschließen.

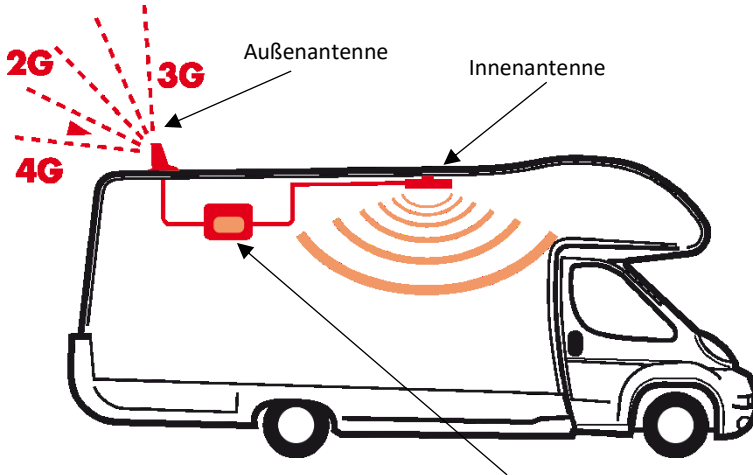


Abbildung 4. Montage der Innenantenne.

phoneBoostervan

HINWEIS

Der Repeater integriert ein intelligentes System für die automatische Regelung des Signalpegels, AGC; vor der endgültigen Befestigung der Antennen ist in jedem Fall sicherzustellen, dass die Antennen in den gewählten Positionen in Hinblick auf die Funkfrequenz ausreichend isoliert sind; wenn die rote Alarmleuchte beim Einschalten des Repeaters blinken sollte, siehe Abbildung 8, das System ausschalten und den Abstand zwischen den Antennen vergrößern. Das System wieder einschalten und den korrekten Betrieb prüfen.

6.3 Repeater - phoneBoostervan

Den phoneBoostervan in einem belüfteten Bereich, fernab von Wärmequellen und nicht direkt dem Sonnenlicht ausgesetzt installieren.

6.4 Status der leds

ANZEIGE DER STATUS-LEDS		
ALARM-LED	Blau mit Dauerlicht	Optimaler Ausgangspegel
	Blau blinkend im Sekundentakt	Max. Ausgangspegel
	Blau blinkend im Halbsekundentakt	Zu hoher Ausgangspegel
BLUETOOTH-LED	Blau blinkend im Sekundentakt	Bluetooth nicht verbunden
	Blau blinkend im Halbsekundentakt	Bluetooth verbunden

6.5 Versorgung

Das Versorgungskabel an die +12Vdc-Leitung anschließen und auf die Polung achten, rot +12V, schwarz Masse.

7 Systemüberwachung und -regelung

Anhand einer dedizierten APP, der **Signal Supervisor-APP**, können Sie das System vollständig und umgehend mit Ihrem Smartphone steuern.

Für iOS-Nutzer steht diese APP im **App Store** bzw. für Android-Nutzer in **Google Play** zur Verfügung.

7.1 Installation der Signal Supervisor-APP

Nachdem Sie das APP heruntergeladen und installiert haben, müssen Sie sich registrieren, eine gültige E-Mail-Adresse eingeben und auf die E-Mail mit dem Aktivierungscode warten, um die Registrierung abzuschließen.

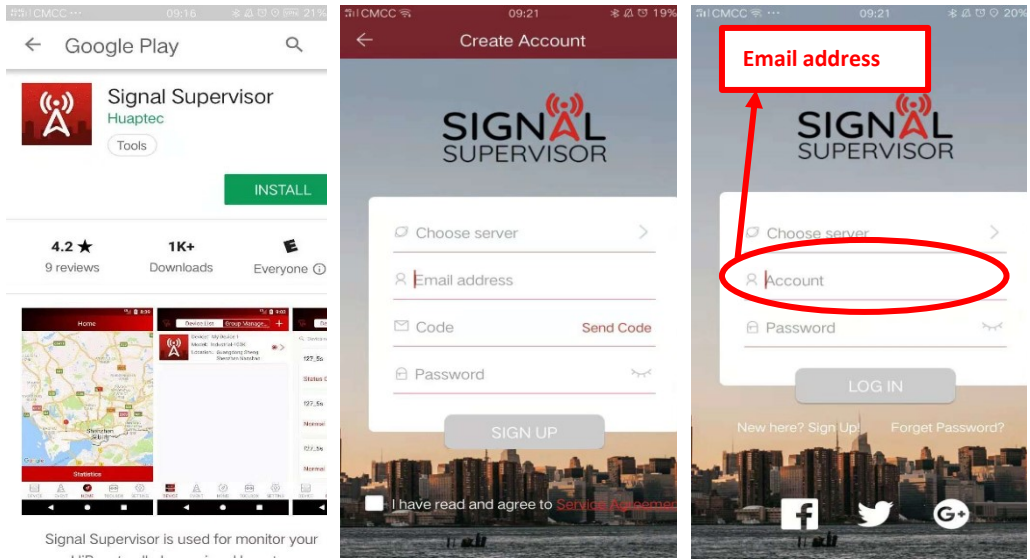


Abbildung 5.

7.2 Systemüberwachung

Wählen Sie nach der Registrierung "+", um einen neuen Repeater zuzuordnen, Abbildung 6.

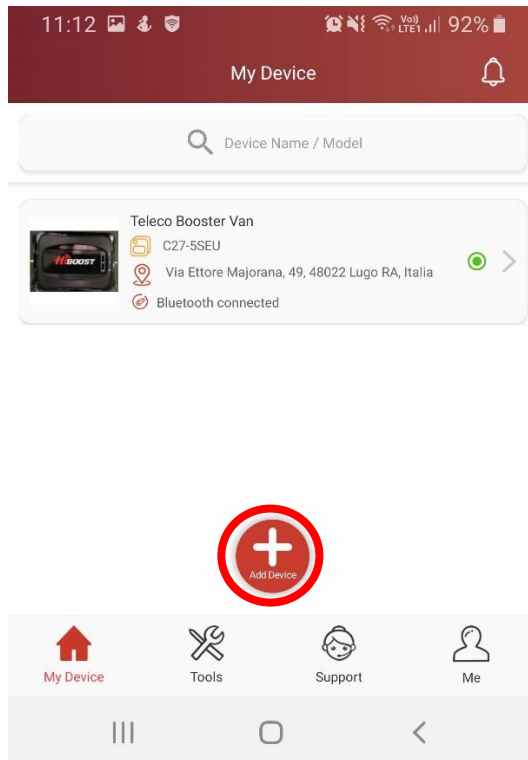


Abbildung 6.

Wählen Sie "Weiter", Abbildung 7, und wählen Sie dann den PhoneBoostervan aus, den Sie überwachen möchten. Wählen Sie die Art der Konfiguration und geben Sie die erforderlichen Daten ein. Zu diesem Zeitpunkt gelangen Sie durch Auswahl der PhoneBoosterVan-Abbildung zu einem Zusammenfassungsbildschirm, in dem Sie den Betriebsstatus jedes einzelnen Bands überprüfen können.

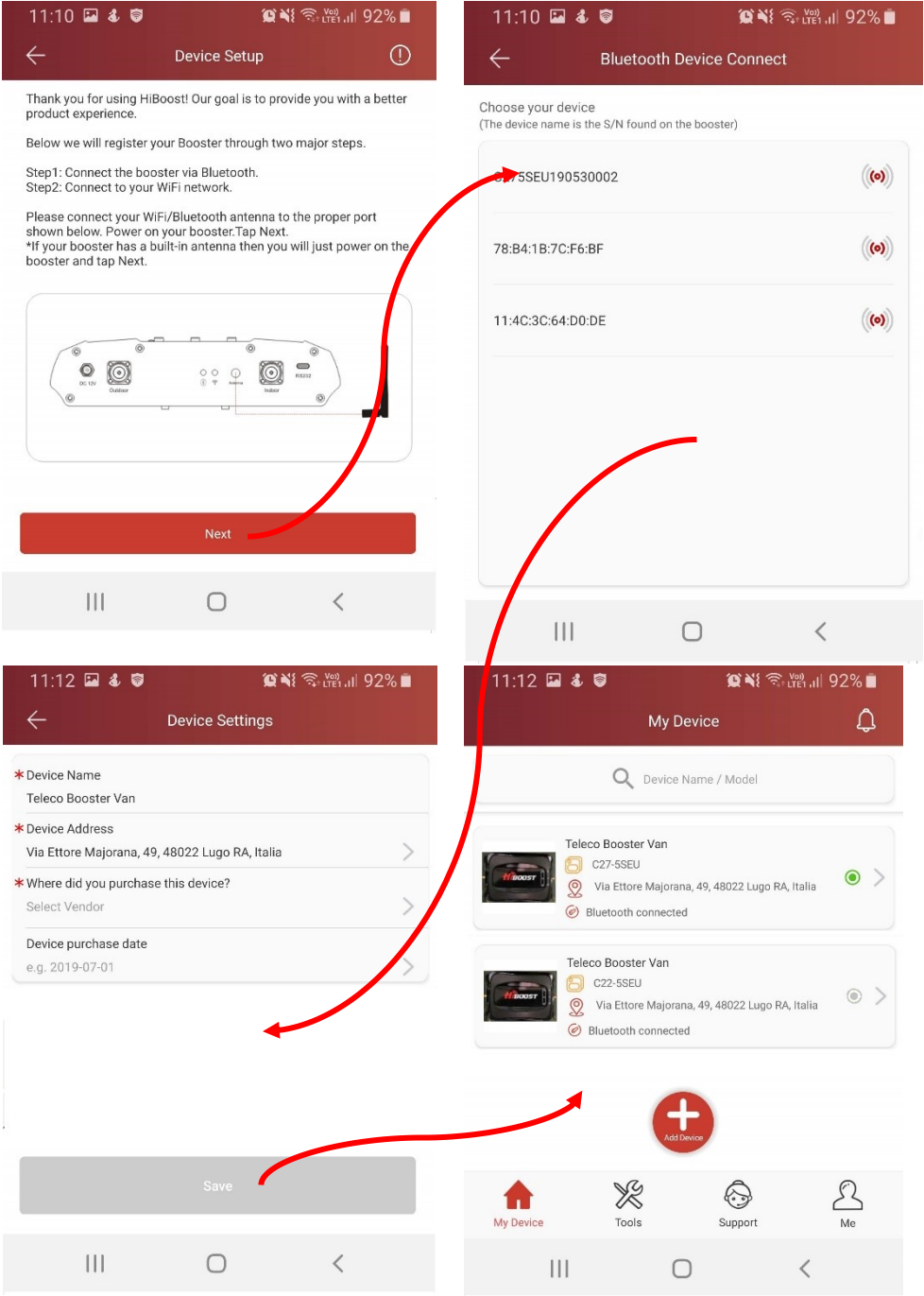


Abbildung 7.

Wenn die in der Abbildung 8 angezeigte Alarmleuchte rot ist, wird ein Störungs-/Fehlerzustand gemeldet. Im Alarmzustand setzt der Repeater automatisch alle Verstärkungen auf null, um das Mobilfunknetz nicht mit Störsignalen zu „belasten“. In diesem Fall **DIE JEWEILIGE POSITION DER AUSSEN- UND INNENANTENNE ÄNDERN, INDEM SIE DIESE WEITER WEG POSITIONIEREN, DA DAS ALARMSIGNAL AUF EINE SCHLECHTE RF-ISOLIERUNG ZURÜCKZUFÜHREN IST.** Wenn Sie die Antennen weiter weg positioniert haben, den Repeater aus- und wieder einschalten.



Abbildung 8.

8 Probleme und Lösungen

STÖRUNG	ABHILFE
Der Repeater schaltet sich nicht ein.	Den korrekten Anschluss des Versorgungskabels prüfen.
Der Repeater ist eingeschaltet, aber das Telefon ist nicht mit dem Netzwerk verbunden, keine Abdeckung.	Den korrekten Anschluss aller Teile des Systems prüfen. Bei ausgeschaltetem System prüfen, ob das Mobilfunksignal an dem Punkt, an der die Außenantenne befestigt ist, vorhanden ist. Wenn es kein Signal vorhanden ist, bedeutet das, dass die Gegend nicht von den Mobilfunkbetreibern abgedeckt wird.
Guter Signalpegel, aber schlechte Qualität.	Eventuelle Geräte feststellen, die das Telefonsignal stören können. Die Qualität des mit Ihrem Telefonbetreiber empfangenen Signals prüfen.
Das System wird versorgt, aber die Abdeckung entspricht nicht der erwarteten.	Prüfen, ob eine Störung vorliegt. Den Repeater mit der APP verbinden und die Konfiguration der Verstärkerketten prüfen.

9 Zertifizierungen

	CE und RED Mit der CE-Zertifizierung erklären wir, dass unsere Produkte mit allen europäischen Gesundheits-, Sicherheits- und Umweltschutzvorschriften und den seit dem 13. Juni 2017 geltenden Vorschriften der RED Richtlinie (Richtlinie über Funkanlagen 2014/53/EU) kompatibel sind.
	RoHS Alle unsere Produkte sind RoHS-konform und entsprechen den Beschränkungen für die Verwendung von schädlichen Materialien.
	Recycling des Geräts In der Europäischen Union weist dieses Symbol darauf hin, dass das Gerät von dem Benutzer, der es zuletzt verwendet hat, zum Entsorgungszeitpunkt einer Recycling- und Verwertungsanlage übergeben werden muss. Für Informationen über die ordnungsgemäße Entsorgung des Produkts konsultieren Sie bitte den Kaufvertrag oder kontaktieren Sie den Hersteller des Geräts.

Made in China



EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB
Notified Body Number 0700



This is to certify that:
PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

Certificate No.	19-211647a
Manufacturer	Shenzhen Huapiao Co., Ltd
Address	3rd FL/E BLDG, Sogood Science Park, SanWei community, Hangcheng Street Bao'an District, Shenzhen, China
Product Description	Vehicle cell phone signal booster; with GSM, WCDMA and LTE
Brand Name / Model Name	HiBoost / C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

The radio equipment meets the following essential requirements

Article 3.1 a): Health and Safety	Conform
Article 3.1 b): Electromagnetic Compatibility	Conform
Article 3.2: Effective and Efficient Use of Radio Spectrum	Conform
Additional Essential Requirements:	Not applicable

Date of issue: **09-10-2019** Expiry date: **09-10-2019**

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.
This version of the certificate replaces the certificate 19-211647, which is hereby withdrawn.



Signature

The attached Annex forms part of this certificate. This certificate consists of 3 pages.

10/9/2019 1:22 PM
Signed by Wayne Hsu
Notified Body

Phone: +49(0)5255 5500-24
Fax: +49(0)5255 5500-33
notifiedbody@phoenix-testlab.de

PHOENIX TESTLAB GmbH
Königsallee 19
D-32925 Bielefeld, Germany
www.phoenix-testlab.de



CERTIFICATE of Conformity

Reference No. : LCS190729008DR

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trademark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU,C27G-5S-EU-RV,C27G-3S-EU,C27G-3S-EU-RV

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU

IEC 62321-3-1:2013 IEC 62321-5:2013 IEC 62321-4:2013+AMD1:2017 CSV
IEC 62321-6:2015 IEC 62321-7-1:2015 IEC 62321-7-2:2017 IEC 62321-8:2017

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out. This certificate applies specifically to the sample investigated in our test reference number only.

The RoHS markings as shown below can be affixed on the product after preparation of necessary technical documentation.

Other relevant Directives have to be observed.

RoHS

Date of Issue: January 02, 2019



扫码查询真伪
Scan, Query authenticity
1 / 1

Zhongshan LCS Compliance Testing Laboratory Ltd.
No. 23F, Building A, Zhongshan Harbor of IDEAS, No 25 Gangzi Road,
Torch Development Zhongshan, Guangdong, China
Tel: (86) 0760-85282955 Fax: (86) 0760-85282908
Http://www.lcs-cert.com Email: webmaster@lcs-cert.com



CERTIFICATE of Conformity

Reference No. : LCS190729019AE

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG,Sogood Science Park, SanWei community,
Hangcheng Street,Bao'an District, Shenzhen, China

Trade Mark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

Opinion on the Essential Requirements

Article 3.1a): Health and Safety	Conform
Article 3.1b): Electromagnetic Compatibility	Conform
Article 3.2: Effective Use of the Radio Spectrum	Conform

CE-marking

Marking Example (Class 1)



This certificate is issued in accordance with The RED2014/53/EU of the European Parliament and the Council and the mutual recognition of their conformity.

September 18, 2019

Date of Issue



Shenzhen LCS Compliance Testing Laboratory Ltd.
101, 501, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District,
Shenzhen, Guangdong, China
Tel: (86)755-82591330 Fax: (86)755-82591332
Http://www.LCS-cert.com Email: webmaster@LCS-cert.com

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Annex



Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.1.1 (2017-02) ETSI EN 301 489-50 V2.1.1 (2017-02)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEA
ETSI EN 303 609 V12.5.1 (2016-04)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEB
ETSI EN 301 908-1 V11.1.1 (2016-07) ETSI EN 301 908-11 V11.1.2 (2017-01) ETSI EN 301 908-15 V11.1.1 (2016-05)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEC LCS190729019AED
EN 50385:2002	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEE
EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2: 2013	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729020AS

General Remarks:

- This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service.
Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
- This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this Certificate.



Shenzhen LCS Compliance Testing Laboratory Ltd.
101, 601, Xingyuan Industrial Park, Gushu Community, Xixiang Street, Bao'an District,
Shenzhen, Guangdong, China
Tel: (86)755-82591330 Fax: (86)755-82591332
Http://www.LCS-cert.com Email: webmaster@LCS-cert.com

2 / 2



扫码查询真伪
Scan, Query authenticity

E10

Certificate Regulation 10

Certificate No. : **385967TRFEMC**

Applicant : **TELECO spa**
Via Majorana, 49 Lugo (Ra) – Italy

Product Name : **PhoneBoosterVan**

Trade Name : **TELECO**

Main Test Model : **PhoneBoosterVan**

Test Standard : **CISPR 25(2002)**
ISO 7637-1(2002)
ISO 7637-2(2004)
ISO 11452-1(2005) + A1(2008)
ISO 11452-2(2004)
ISO 11452-3(2001)
ISO 11452-4(2011)

The EUT described above has been tested by us with the listed standards and found in compliance with the council directive **REGULATION 10 Revision 5 with amendment 1**, Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

5 November 2019



10 Technische angaben

RF-Parameter		Uplink	Downlink
Frequenzbänder	800MHz	832-862MHz	791-821MHz
	900MHz	880-915MHz	925-960MHz
	1800MHz	1710-1785MHz	1805-1880MHz
	2100MHz	1920-1980MHz	2110-2170MHz
	2600MHz	2500-2570MHz	2620-2690MHz
Max. Verstärkung		50 dB	
Max. Pegel		25 dBm	8 dBm
DC-Betriebsspannung	5 – 16Vdc/500mA		
Eingangs-/Ausgangs impedanz	50 Ohm		
V.S.W.R.	≤ 4		
Gruppenverspätung	≤ 1us		
Frequenzstabilität	≤ 0.01ppm		
Ripple	< 13dB		
Noise Figure @ max gain	< 12dB		
Betriebstemperatur	-45/+55 °C		
Lagertemperatur	-45/+80 °C		
Relative Feuchtigkeit	95 %		
Größe	171x112x31,5 mm		
Gewicht	0,55 Kg		
Schutzart	IP40		
Interne antenne			
Gewinn	2,15 dBi		
Frequenz	698 – 2700MHz		
Durchmesser	160 mm		
Höhe	50 mm		
Steker	N männlich		
Externe antenne			
Gewinn	2,15 dBi		
Frequenz	689 – 2700MHz		
Größe	85x67x96 mm		
Koaxial kabel 50Ω	Länge 3 meter – N männlich /SMA männlich		

1	Généralités	39
2	Sécurité.....	39
3	Présentation	39
4	Glossaire	41
5	Contenu de l'emballage.....	42
6	Installation.....	43
6.1	Antenne en forme d' « aileron de requin » externe	43
6.2	Antenne omnidirectionnelle interne.....	44
6.3	Relais ou phoneBoostervan	44
6.4	Description LED d'état	45
6.5	Alimentation	45
7	Monitoring et contrôle du système.....	45
7.1	Installation de l'Application Signal Supervisor	45
7.2	Monitoring du système	46
8	Problèmes et solutions	48
9	Certifications	49
10	Spécifications techniques.....	55

1 Généralités

Ce manuel d'utilisation décrit le fonctionnement, l'installation et la configuration du relais téléphonique pour véhicules mobiles, phoneBoostervan. Avant l'installation et la configuration, veuillez lire attentivement la présente notice.

Les informations présentes dans cette notice peuvent être modifiées sans préavis.

2 Sécurité



Le relais respecte les paramètres de sécurité inhérents aux signaux des appareils mobiles, s'assurer que la connexion de masse est bonne et le protéger de la lumière directe du soleil.



Toute opération doit être effectuée uniquement après avoir débranché l'alimentation et par du personnel autorisé.



Ne pas démonter le relais et les accessoires correspondants pour éviter toute secousse électrique.



Ne pas ouvrir ni toucher les composants afin d'éviter des ruptures dues à des décharges électrostatiques.



Installer le relais dans un environnement frais et ventilé afin de faciliter la dissipation de la chaleur produite pendant le fonctionnement.

3 Présentation

Le relais phoneBoostervan est conçu pour recevoir le signal des cinq bandes du réseau cellulaire, 800 MHz - 900 MHz - 1800 MHz - 2100 MHz - 2600 MHz, l'amplifier et le répéter à l'intérieur du véhicule mobile et à proximité immédiate. Le phoneBoostervan intègre un système de contrôle automatique du gain, AGC, lequel permet l'équilibrage des niveaux du signal pour un fonctionnement optimal.

Le système est bidirectionnel, l'antenne externe reçoit le signal du réseau cellulaire, l'amplifie et le transmet via l'antenne interne ; de la même manière elle reçoit le signal transmis par le dispositif mobile par l'intermédiaire de l'antenne interne, il est amplifié et transmis à la BTS de l'opérateur téléphonique. Doté d'un système de contrôle du gain afin d'éviter toute perturbation des réseaux des opérateurs téléphoniques et d'éviter tout dysfonctionnement pour les autres usagers.

Le schéma fonctionnel du phoneBoostervan est reporté sur la Figure 1.

REMARQUE : Le relais téléphonique pour véhicules mobiles amplifie et répète le signal de la téléphonie mobile, ce qui signifie qu'en cas d'absence de signal ou de signal de mauvaise qualité, le relais n'a aucune efficacité.

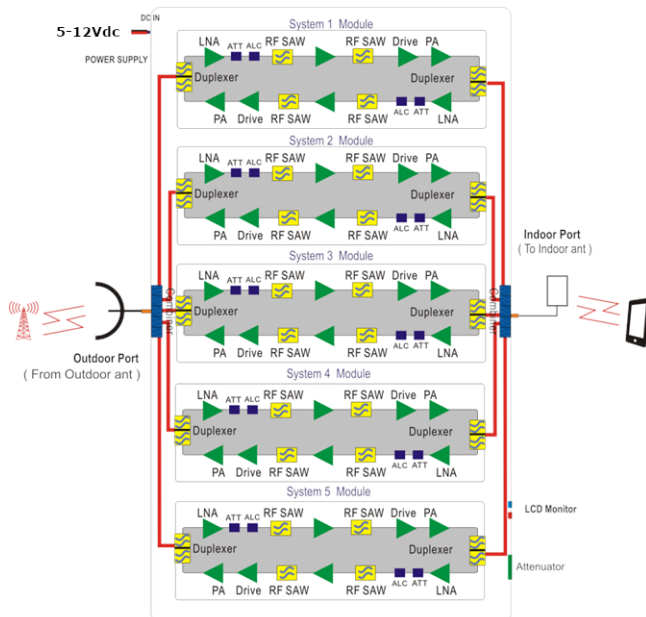


Figure 1. Schéma fonctionnel du phoneBoostervan.

- **CPU dédié** : le CPU permet de gérer de manière complètement automatique et intelligente l'amplification et la distribution du signal dans la zone où il est installé,
- **ISO** : Système intelligent de contrôle de l'isolation entre l'antenne externe et celle interne, afin d'éviter le phénomène d'auto-oscillation ou de look back, afin de garantir un signal sans distorsion et d'éviter toute interférence avec la cellule de l'opérateur téléphonique ;
- **ALC** : Système de contrôle automatique du gain. Il permet de contrôler en temps réel la valeur d'amplification du signal tout en maintenant le niveau de sortie et la qualité à la valeur optimale ;
- **SignalSupervisor APP** : application présente dans le magasin **Google Play** pour des usagers android, **App Store** pour des usagers iOS, utilisée pour le contrôle complet du relais. **SignalSupervisor** permet de vérifier l'atténuation du signal présent à l'entrée, il permet également de vérifier l'état de fonctionnement des différentes chaînes d'amplification ;
- **Bluetooth** intégré pour le contrôle à distance du système à l'aide du smartphone, en utilisant l'application Signal Supervisor ;
- Design optimisé pour la dissipation de la chaleur et une consommation réduite.

4 Glossaire

Terme	Définition
800	Réseau LTE à 800MHz LTE800(832~862MHz/791~821MHz)
900	Réseau EGSM900(880~890MHz/925~935MHz) et PGSM900(890~915MHz/935~960MHz), WCDMA/UMTS900(880~915MHz/925~960MHz)s
1800	Réseau GSM/LTE1800(1710~1785MHz/1805~1880MHz)
2100	Réseau 3G(WCDMA/UMTS2100) (1920~1980MHz/2110~2170MHz)
2600	Réseau LTE2600(2500~2570MHz/2620~2690MHz)
RF	Radiofréquence
ATT	Atténuation
ALC	Contrôle Automatique du Niveau (Automatic Level Control)
AGC	Contrôle Automatique du Gain (Automatic Gain Control)
MGC	Contrôle Manuel du Gain (Manual Gain Control)
LNA	Amplificateur à base restreinte de Bruit (Low Noise Amplifier)
PA	Amplificateur de Puissance (Power Amplifier)
dB	Décibel
dBm	Decibels par rapport à 1 milliWatt
UL	Uplink
DL	Downlink
Hz	Hertz
MHz	Mégahertz
NF	Figure de Bruit (Noise Figure)

5 Contenu de l'emballage

	DESCRIPTION	FONCTION
	Antenne externe en forme d' « aileron de requin »	Antenne externe à monter sur le toit du véhicule mobile
	Car Booster	Unité d'amplification
	Antenne omnidirectionnelle interne	Antenne omnidirectionnelle interne
	Cordon d'alimentation avec connecteur de 3,5 mm	Cordon d'alimentation avec connecteur de 3,5 mm d'un côté, et câbles libres du côté opposé



Figure 2. Description Phoneboostervan.

6 Installation

6.1 Antenne en forme d' « aileron de requin » externe

Installer l'antenne externe en forme d' « aileron de requin » sur le toit du véhicule mobile, sans l'obstruer avec des dispositifs susceptibles de masquer les signaux de radiofréquence. Raccorder le câble coaxial de l'antenne externe au connecteur SMA femelle « Outdoor » du phoneBoostervan.

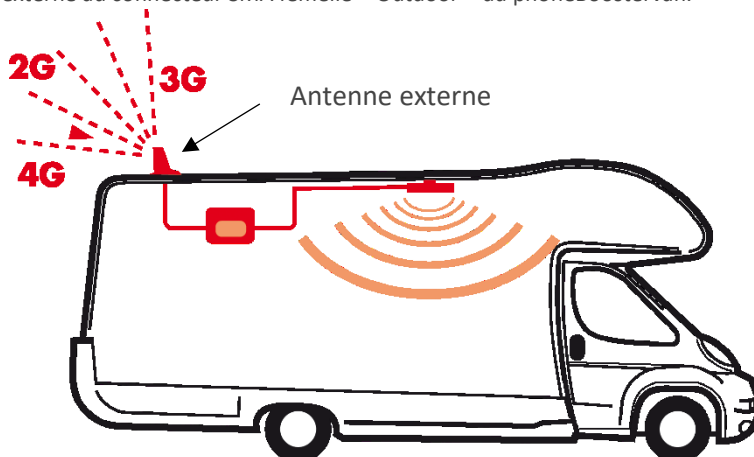


Figure 3. Installation de l'antenne externe.

6.2 Antenne omnidirectionnelle interne

Installer l'antenne omnidirectionnelle interne, se référer à la Figure 4, au plafond du camping-car, en prenant soin de l'installer dans une position intermédiaire, afin de couvrir uniformément l'ensemble du camping-car et l'espace à proximité immédiate. Raccorder le câble coaxial de l'antenne au connecteur SMA femelle « Indoor » du phoneBoostervan. Raccorder le câble d'alimentation +12V à la batterie du camping-car.

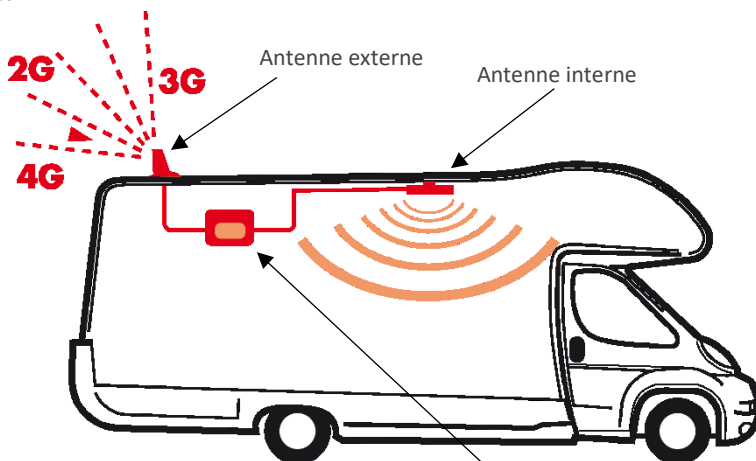


Figure 4. Installation de l'antenne interne

phoneBoostervan

REMARQUE

Le relais intègre un système intelligent de contrôle automatique du niveau des signaux, AGC ; cependant, avant de fixer définitivement les antennes, il est nécessaire de vérifier que, dans les positions choisies, les antennes sont suffisamment isolées du point de vue RF ; si le voyant d'alarme rouge clignote lorsque le relais est allumé, se référer à la Erreur. L'origine riferimento non è stata trovata., éteindre le système et augmenter la distance entre les antennes. Rallumer le système et vérifier le bon fonctionnement.

6.3 Relais ou phoneBoostervan

Installer le phoneBoostervan dans une zone ventilée, loin de sources de chaleur et non exposé directement aux rayons du soleil. Le phoneBoostervan est doté de trois voyants d'état, Figure 2, pour contrôler l'état de fonctionnement du système. Sur le Tableau 1, il y a la description des voyants d'état.

6.4 Description LED d'état

INDICATION LED D'ÉTAT		
LED D'ALARME	Bleu fixe	Niveau de sortie optimal
	Bleu, clignotant toutes les secondes	Niveau de sortie maximum
LED BLUETOOTH	Rouge, clignotant toutes les demies-secondes	Le phoneBoostervan déconnecté en raison d'un niveau du signal excessif en downlink
	Bleu, clignotant toutes les secondes	Bluetooth non connecté
	Bleu, clignotant toutes les demies-secondes	Bluetooth connecté

Tableau 1. Description LED d'état.

6.5 Alimentation

Connecter le cordon d'alimentation à la ligne + 12Vcc en prenant soin de respecter la polarité, rouge + 12V, masse noire.

7 Monitoring et contrôle du système

Grâce à une application dédiée, **Signal Supervisor APP**, il est possible d'avoir un contrôle complet et ponctuel du système en utilisant votre smartphone.

L'application se trouve dans l'**App Store** pour les utilisateurs d'iOS ou **Google Play** pour les utilisateurs d'Android.

7.1 Installation de l'Application Signal Supervisor

Après avoir téléchargé et installé l'application, il est nécessaire de s'inscrire. Saisir une adresse e-mail valide et attendre l'e-mail avec le code d'activation pour terminer l'enregistrement.

F

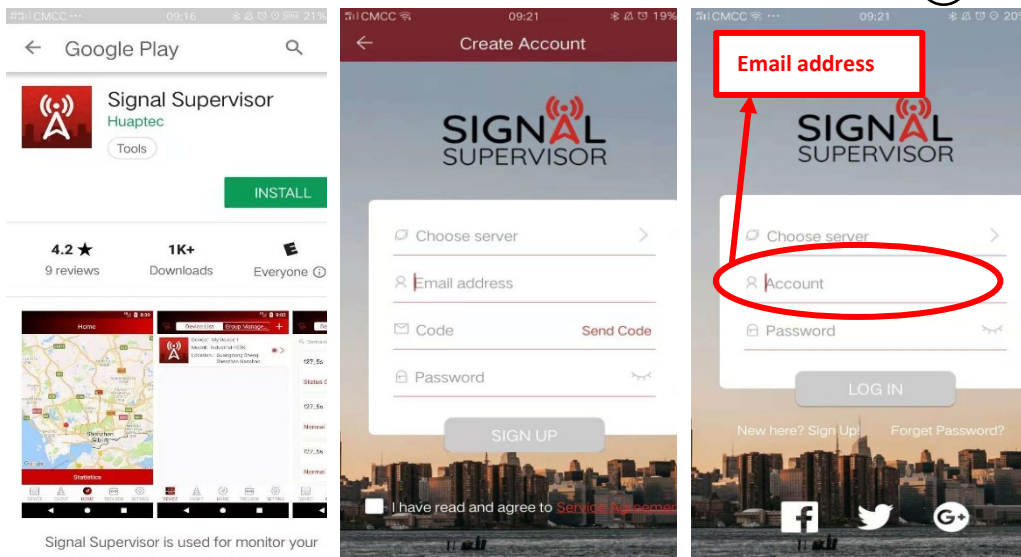


Figure 5.

7.2 Monitoring du système

Après s'être enregistré(e), sélectionner « + » dans la barre du menu qui apparaît en bas, Figure 6.

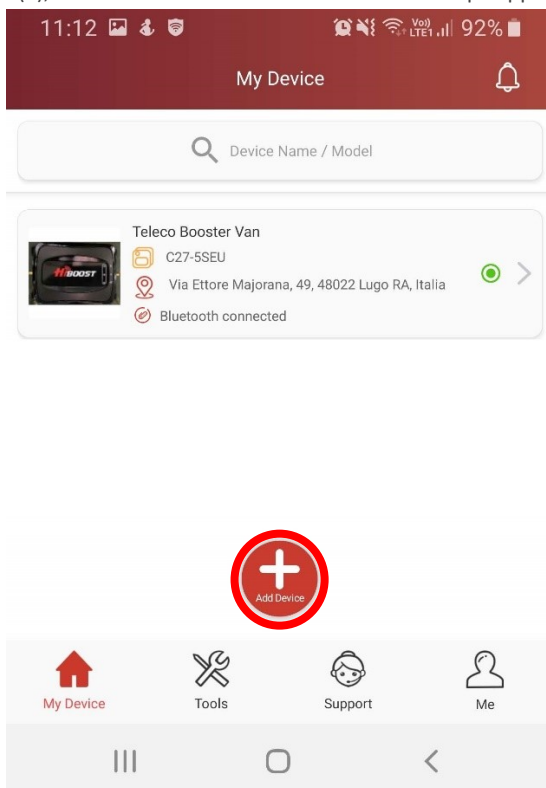


Figure 6.

Sélectionner next, Figure 7, puis sélectionner le phoneBoostervan qu'on veut contrôler. Sélectionnez le type de configuration et entrez les données requises. À ce stade, en sélectionnant le chiffre PhoneBoosterVan, vous accédez à un écran de résumé à partir duquel vous pouvez vérifier le statut de fonctionnement de chaque bande, Figure 7.

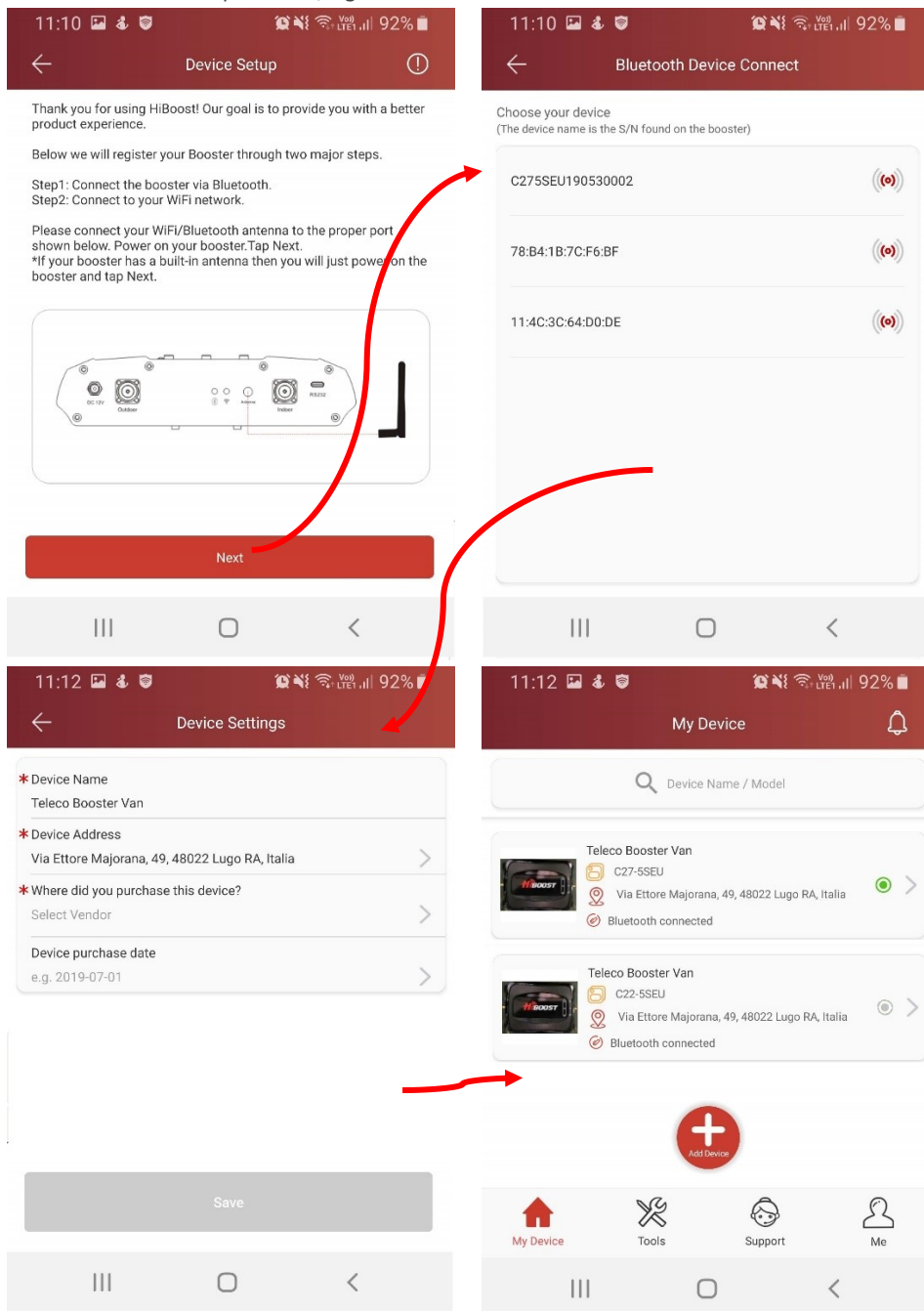


Figure 7.

Dans le cas où le voyant d'alarme mentionné sur la Figure 8 est rouge, ceci indique une anomalie/un dysfonctionnement. En cas d'alarme, le relais réinitialise automatiquement tous les gains, afin de ne pas « charger » le réseau de téléphonie mobile avec des signaux gênants. Dans ce cas, **MODIFIER LA POSITION CORRESPONDANTE DE L'ANTENNE EXTERNE ET INTERNE EN LES ÉLOIGNANT, CAR LE SIGNAL D'ALARME EST DÛ À LA FAIBLE ISOLATION RF**. Une fois éloignées les antennes, éteindre et rallumer le relais.



Figure 8.

8 Problèmes et solutions

PROBLÈME	SOLUTION
Le relais ne s'allume pas.	Contrôler le bon raccordement du cordon d'alimentation.
Le relais est allumé mais le téléphone ne se connecte pas au réseau, absence de couverture.	Vérifier la bonne connexion de toutes les parties du système. Vérifier une fois le système éteint, si le signal de téléphonie mobile est présent là où l'antenne externe est fixée. En l'absence de signal, cela signifie que la zone n'est pas desservie par les opérateurs de téléphonie mobile.
Le niveau du signal est bon mais la qualité est mauvaise.	Recherchez tout équipement susceptible d'interférer avec le signal téléphonique. Vérifier la qualité du signal reçu avec l'opérateur téléphonique.
Le système est alimenté mais la couverture n'est pas celle attendue.	Vérifier si une anomalie subsiste. Se connecter au relais avec l'application et contrôler la configuration des gains des chaînes d'amplification.

9 Certifications

	RE et RED Avec la certification CE, nous déclarons que nos produits sont compatibles avec toutes les réglementations européennes en matière de santé, de sécurité et de protection de l'environnement et des règles RED (directive sur les équipements radioélectriques 2014/53/EU) en vigueur depuis le 13 juin 2017.
	RoHS Tous nos produits sont conformes à la directive RoHS et respectent les limitations d'utilisation de matières nocives.
	Recyclage de l'appareil Dans l'Union européenne, ce symbole indique qu'au moment de la mise au rebut, le dernier utilisateur à utiliser l'appareil doit confier le produit dans une installation de recyclage et de récupération. Pour plus d'informations sur l'élimination correcte du produit, consulter le contrat d'achat ou contacter le fournisseur de l'appareil.

Fabriqué en Chine



EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB
Notified Body Number 0700



This is to certify that:
PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

Certificate No.	19-211647a
Manufacturer	Shenzhen Huapiao Co., Ltd
Address	3rd FL, E BLDG, Sogood Science Park, SanWei community, Hangcheng Street Bao'an District, Shenzhen, China
Product Description	Vehicle cell phone signal booster; with GSM, WCDMA and LTE
Brand Name / Model Name	HiBoost / C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

The radio equipment meets the following essential requirements

Article 3.1 a): Health and Safety	Conform
Article 3.1 b): Electromagnetic Compatibility	Conform
Article 3.2: Effective and Efficient Use of Radio Spectrum	Conform
Additional Essential Requirements:	Not applicable

Date of issue: **09-10-2019** Expiry date: **09-10-2019**

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.
This version of the certificate replaces the certificate 19-211647, which is hereby withdrawn.



Signature

The attached Annex forms part of this certificate. This certificate consists of 3 pages.

10/9/2019 1:22 PM
Signed by Wayne Hsu
Notified Body

Phone: +49(0)5255 5500-24
Fax: +49(0)5255 5500-33
notifiedbody@phoenix-testlab.de

PHOENIX TESTLAB GmbH
Königsallee 19
D-32925 Bielefeld, Germany
www.phoenix-testlab.de



CERTIFICATE of Conformity

Reference No. : LCS190729008DR

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trademark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU,C27G-5S-EU-RV,C27G-3S-EU,C27G-3S-EU-RV

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU

IEC 62321-3-1:2013 IEC 62321-5:2013 IEC 62321-4:2013+AMD1:2017 CSV
IEC 62321-6:2015 IEC 62321-7-1:2015 IEC 62321-7-2:2017 IEC 62321-8:2017

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out. This certificate applies specifically to the sample investigated in our test reference number only.

The RoHS markings as shown below can be affixed on the product after preparation of necessary technical documentation.

Other relevant Directives have to be observed.

RoHS

Date of Issue: January 02, 2019



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Zhongshan LCS Compliance Testing Laboratory Ltd.
No. 23F, Building A, Zhongshan Harbor of IDEAS, No 25 Gangzi Road,
Torch Development Zhongshan, Guangdong, China
Tel: (86) 0760-85282955 Fax: (86) 0760-85282908
Http://www.lcs-cert.com Email: webmaster@lcs-cert.com



CERTIFICATE of Conformity

Reference No. : LCS190729019AE

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG,Sogood Science Park, SanWei community,
Hangcheng Street,Bao'an District, Shenzhen, China

Trade Mark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

Opinion on the Essential Requirements

Article 3.1a): Health and Safety	Conform
Article 3.1b): Electromagnetic Compatibility	Conform
Article 3.2: Effective Use of the Radio Spectrum	Conform

CE-marking

Marking Example (Class 1)



This certificate is issued in accordance with The RED2014/53/EU of the European Parliament and the Council and the mutual recognition of their conformity.

September 18, 2019

Date of Issue



Shenzhen LCS Compliance Testing Laboratory Ltd.
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Annex



Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.1.1 (2017-02) ETSI EN 301 489-50 V2.1.1 (2017-02)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEA
ETSI EN 303 609 V12.5.1 (2016-04)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEB
ETSI EN 301 908-1 V11.1.1 (2016-07) ETSI EN 301 908-11 V11.1.2 (2017-01) ETSI EN 301 908-15 V11.1.1 (2016-05)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEC LCS190729019AED
EN 50385:2002	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEE
EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2: 2013	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729020AS

General Remarks:

- This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service.
Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
- This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this Certificate.



Shenzhen LCS Compliance Testing Laboratory Ltd.
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2 / 2



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E10

Certificate Regulation 10

Certificate No. : 385967TRFEMC
Applicant : TELECO spa
Via Majorana, 49 Lugo (Ra) – Italy
Product Name : PhoneBoosterVan
Trade Name : TELECO
Main Test Model : PhoneBoosterVan
Test Standard : CISPR 25(2002)
ISO 7637-1(2002)
ISO 7637-2(2004)
ISO 11452-1(2005) + A1(2008)
ISO 11452-2(2004)
ISO 11452-3(2001)
ISO 11452-4(2011)

The EUT described above has been tested by us with the listed standards and found in compliance with the council directive **REGULATION 10 Revision 5 with amendment 1**, Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

5 November 2019



10 Spécifications techniques

Paramètres RF		Uplink	Downlink
Bandes de fréquence	800MHz	832-862MHz	791-821MHz
	900MHz	880-915MHz	925-960MHz
	1800MHz	1710-1785MHz	1805-1880MHz
	2100MHz	1920-1980MHz	2110-2170MHz
	2600MHz	2500-2570MHz	2620-2690MHz
Gain maximum		50 dB	
Niveau maximum		25 dBm	8 dBm
Alimentation	5 - 16 Vdc / 500 mA		
Impédance In/Out	50 ohm		
V.S.W.R	≤ 4		
Retard de groupe	≤ 1us		
Stabilité de fréquence	≤ 0.01ppm		
Ripple	< 13dB		
Noise figure @ max gain	< 12dB		
Température d’emploi	-45/+55°C		
Température de stockage	-45/+80°C		
Humidité relative	95 %		
Dimensions	171x112x31,5 mm		
Poids	0,55 kG		
Protection	IP40		
Antenne interior			
Gain net	2,15 dBi		
Fréquence	698 – 2700MHz		
Diamètre	160 mm		
Hauteur	50 mm		
Connecteur	N male		
Antenne extern			
Gain net	2,15 dBi		
Fréquence	689 – 2700MHz		
Dimensions	85x67x96 mm		
Cable coaxial 50Ω	Lunghezza 3 meters – N male/SMA male		

1	Algemene informatie.....	57
2	Veiligheid	57
3	Presentatie	57
4	Verklarende woordenlijst	59
5	Inhoud van de verpakking	60
6	Installatie	61
6.1	“Haaienvin” buitenantenne	61
6.2	Alzijdige binnenantenne	62
6.3	Signaalversterker of PhoneBoosterVan	62
6.4	Beschrijving van de statusleds	63
6.5	Voeding	63
7	Systeembewaking en -controle	63
7.1	Installatie van de Signal Supervisor APP	63
7.2	Systeembewaking	64
8	Problemen en oplossingen	66
9	Certificeringen	67
10	Technische gegevens	72

1 Algemene informatie

Deze gebruiksaanwijzing geeft een beschrijving van de werking, de installatie en de configuratie van de mobiele telefoonsignaalversterker voor voertuigen, de PhoneBoosterVan. Lees vóór de installatie en de configuratie deze gebruiksaanwijzing aandachtig.

De informatie die in deze handleiding is vermeld kan zonder voorafgaande kennisgeving gewijzigd worden.

2 Veiligheid



De signaalversterker voldoet aan de veiligheidsparameters met betrekking tot de signalen van mobiele apparatuur. Zorg ervoor dat u over een goede massa-aansluiting beschikt en bescherm de signaalversterker tegen direct zonlicht.



Elke handeling mag pas verricht worden nadat de stroom uitgeschakeld is en mag uitsluitend door bevoegde vakmensen gedaan worden.



De signaalversterker en de betreffende accessoires mogen niet gedemonteerd worden om elektrische schokken te voorkomen.



De onderdelen mogen niet opengemaakt of aangeraakt worden om eventuele defecten door elektrostatische ontlading te voorkomen.



De signaalversterker moet op een koele en geventileerde plaats geïnstalleerd worden om de warmte die tijdens de werking wordt geproduceerd makkelijker te kunnen afvoeren.

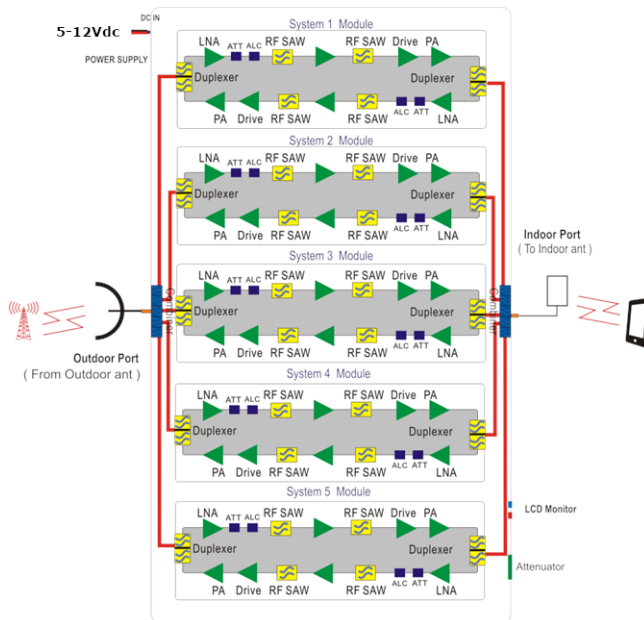
3 Presentatie

De signaalversterker PhoneBoosterVan is ontwikkeld om het signaal van de vijf banden van het mobiele netwerk 800MHz - 900MHz - 1800MHz - 2100MHz - 2600MHz te ontvangen, te versterken en te herhalen in het voertuig en in de onmiddellijke nabijheid daarvan. In de PhoneBoostervan is een automatisch regelsysteem van de versterking ingebouwd (AGC Automatic Gain Control) waarmee het signaal gebalanceerd kan worden voor een optimale werking.

Het systeem is bidirectioneel, de buitenantenne ontvangt het signaal van het mobiele netwerk, versterkt het en verzendt het via de binnenantenne; het systeem ontvangt eveneens het signaal dat door het mobiele apparaat via de binnenantenne wordt verzonden, dat versterkt en verzonden wordt naar het BTS (Basic Transceiver Station) van de telefoonoperator. Het systeem is uitgerust met een controlesysteem van de versterking zodat er geen storingen in de netwerken van de telefoonoperators worden veroorzaakt en om overlast voor andere gebruikers te voorkomen.

In afb. 1 wordt het blokschema van de PhoneBoosterVan getoond.

OPMERKING: De versterker voor voertuigen versterkt en herhaalt het mobiele telefoniesignaal; dit houdt in dat de versterker als er geen signaal is of bij signaal van slechte kwaliteit geen effect heeft.



Afb. 1. Blokschema van de PhoneBoost van

- **Speciale CPU:** met de CPU is het mogelijk om de versterking en de verspreiding van het signaal op de plaats waar de apparatuur geïnstalleerd wordt volledig automatisch en op intelligente wijze te beheren.
- **ISO:** Intelligent controlesysteem van de isolatie tussen de buitenantenne en de binnenantenne, om het verschijnsel van auto-oscillatie of loopback te vermijden, om van een vervormingsvrij signaal te verzekeren en om de cel van de telefoonoperator niet te hinderen.
- **ALC:** Automatisch controlesysteem van de versterking. Hiermee kan de signaalversterkingswaarde in realtime worden gecontroleerd, waarbij het uitgangsniveau en de kwaliteit op de optimale waarde worden gehouden.
- **Signal Supervisor APP:** app aanwezig in de **Google Play Store** voor Android-gebruikers, **App Store** voor iOS-gebruikers, die gebruikt wordt voor volledige controle over de versterker. Met **Signal Supervisor** kan de verzwakking van het signaal dat aanwezig is bij de ingang gecontroleerd worden, het is ook mogelijk om de werkingsstatus van de verschillende versterkingsketens te controleren.
- Geïntegreerde **Bluetooth** voor afstandsbediening van het systeem via smartphone, met behulp van de Signal Supervisor App.
- Geoptimaliseerde vormgeving voor warmteafvoer en lager verbruik.

4 Verklarende woordenlijst

Begrip	Definitie
800	LTE netwerk op 800MHz LTE800 netwerk (832~862MHz/791~821MHz)
900	EGSM 900 netwerk 900 (880~890MHz/925~935MHz) en PGSM netwerk 900 (890~915MHz/935~960MHz), WCDMA/UMTS900 netwerk (880~915MHz/925~960MHz)
1800	GSM/LTE 1800 netwerk (1710~1785MHz/1805~1880MHz)
2100	3G netwerk (WCDMA/UMTS2100) (1920~1980MHz/2110~2170MHz)
2600	LTE2600 netwerk (2500~2570MHz/2620~2690MHz)
RF	Radiofrequentie
ATT	Attenuation (verzwakking)
ALC	Automatic Level Control (automatische niveauregeling)
AGC	Automatic Gain Control (automatische versterkingsregeling)
MGC	Manual Gain Control (handmatige versterkingsregeling)
LNA	Low Noise Amplifier (lage-ruisversterker)
PA	Power Amplifier (stroomversterker)
dB	Decibel
dBm	Decibel ten opzichte van 1 milliwatt
UL	Uplink
DL	Downlink
Hz	Hertz
MHz	Megahertz
NF	Noise Figure (ruisgetal)

5 Inhoud van de verpakking

	BESCHRIJVING	FUNCTIE
	"Haaivinn" buitenantenne	Buitenantenne te monteren op het dak van het voertuig
	Car Booster	Versterkingsunit
	Alzijdige binnenantenne	Alzijdige binnenantenne
	Stroomkabel met 3,5 mm stekkerverbinding	Stroomkabel met 3,5 mm stekkerverbinding aan de ene kant en vrije kabels aan de andere kant

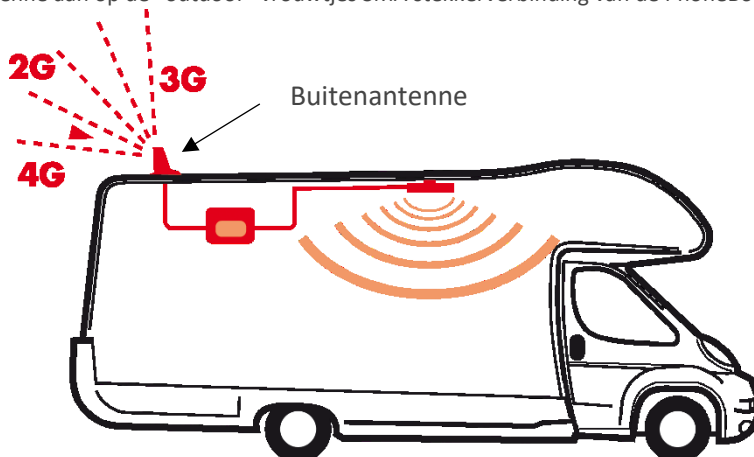


Afb. 2 Beschrijving van de PhoneBoosterVan

6 Installatie

6.1 “Haaienvin” buitenantenne

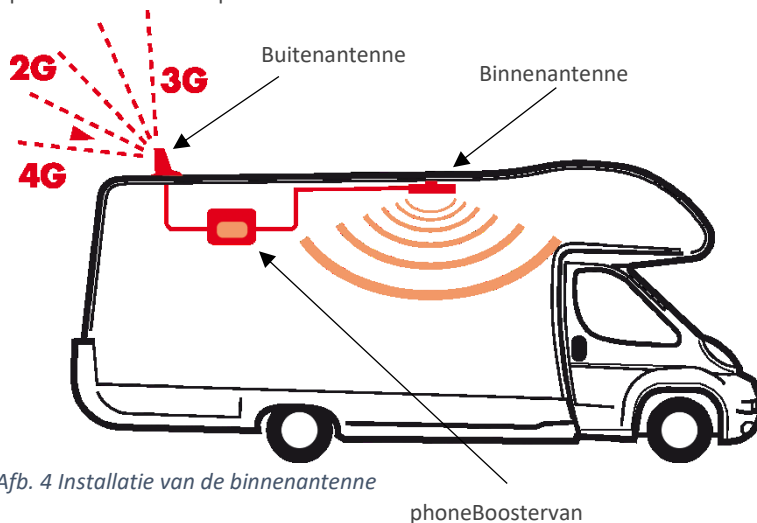
Installeer de “haaienvin” buitenantenne op het dak van het voertuig, zonder dat er apparaten in de weg zitten waardoor het radiofrequentiesignaal afgeschermd zou kunnen worden. Sluit de coaxkabel van de buitenantenne aan op de “outdoor” vrouwtjes SMA stekerverbinding van de PhoneBoosterVan.



Afb. 3 Installatie van de buitenantenne

6.2 Alzijdige binnenantenne

Installeer de alzijdige binnenantenne, zie afb. 4 aan het plafond van de camper, waarbij u ervoor moet zorgen dat de antenne in een tussenpositie geïnstalleerd wordt zodat in de hele camper en de ruimte in de directe nabijheid een gelijkmatige dekking kan worden verkregen. Sluit de coaxkabel van de antenne aan op de “indoor” vrouwjes SMA stekkerverbinding van de PhoneBoosterVan. Sluit de +12V stroomkabel aan op de accu van de camper.



Afb. 4 Installatie van de binnenantenne

OPMERKING

In de signaalversterker is een intelligent systeem voor automatische regeling van het signaalniveau ingebouwd (AGC Automatic Gain Control); voordat de antennes definitief worden bevestigd is het echter noodzakelijk om te controleren of de antennes in de gekozen posities voldoende geïsoleerd zijn vanuit het oogpunt van de RF. Als het rode alarmlampje knippert als u de signaalversterker inschakelt, zie afb. 8, schakel het systeem dan uit en vergroot de afstand tussen de antennes. Schakel het systeem weer in en controleer of het goed functioneert.

6.3 Signaalversterker of PhoneBoosterVan

Installeer de PhoneBoosterVan op een geventileerde plaats, uit de buurt van warmtebronnen en niet in de felle zon. De PhoneBoosterVan is voorzien van drie statusleds, afb. 2, om de werkingstatus van het systeem te controleren. In tabel 1 wordt de beschrijving van de statusleds gegeven.

6.4 Beschrijving van de statusleds

AANDUIDING VAN DE STATUSLEDS		
ALARMLED	Blauw, constant aan	Optimaal uitgangsniveau
	Blauw, elke seconde knipperend	Maximaal uitgangsniveau
	Rood, elke halve seconde knipperend	PhoneBoosterVan niet verbonden door overmatig signaalniveau in downlink
BLUETOOTH LED	Blauw, elke seconde knipperend	Bluetooth niet aangesloten
	Blauw, elke halve seconde knipperend	Bluetooth aangesloten

Tabel 1 Beschrijving van de statusleds

6.5 Voeding

Sluit de voedingskabel aan op de + 12Vdc-lijn en let op de polariteit, rood +12V, zwart massa.

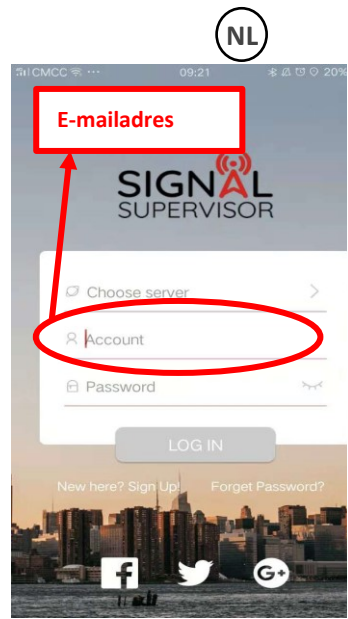
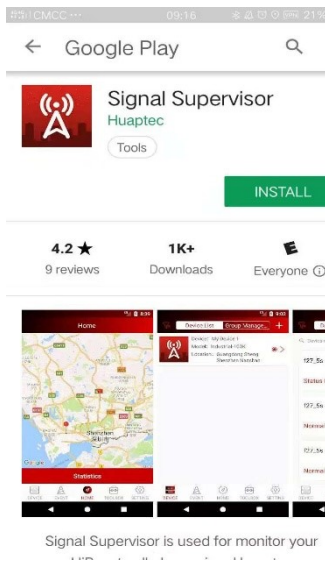
7 Systeembewaking en -controle

Via een speciale APP, de **Signal Supervisor APP**, is het mogelijk om een volledige en punctuele controle van het systeem te hebben met behulp van uw smartphone.

De APP is te vinden in de **App Store** voor iOS-gebruikers of in **Google Play** voor Android-gebruikers.

7.1 Installatie van de Signal Supervisor APP

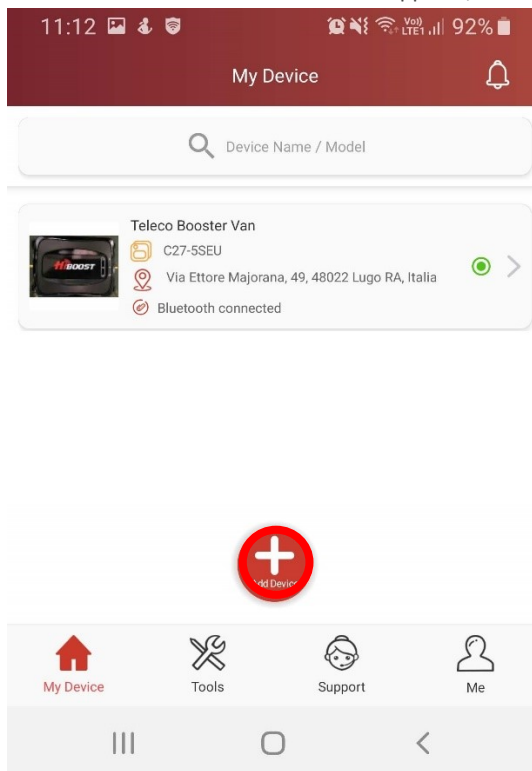
Na het downloaden en installeren van de APP is registratie vereist; voer een geldig e-mailadres in en wacht op de e-mail met de activeringscode om de registratie te voltooien.



Afb. 5

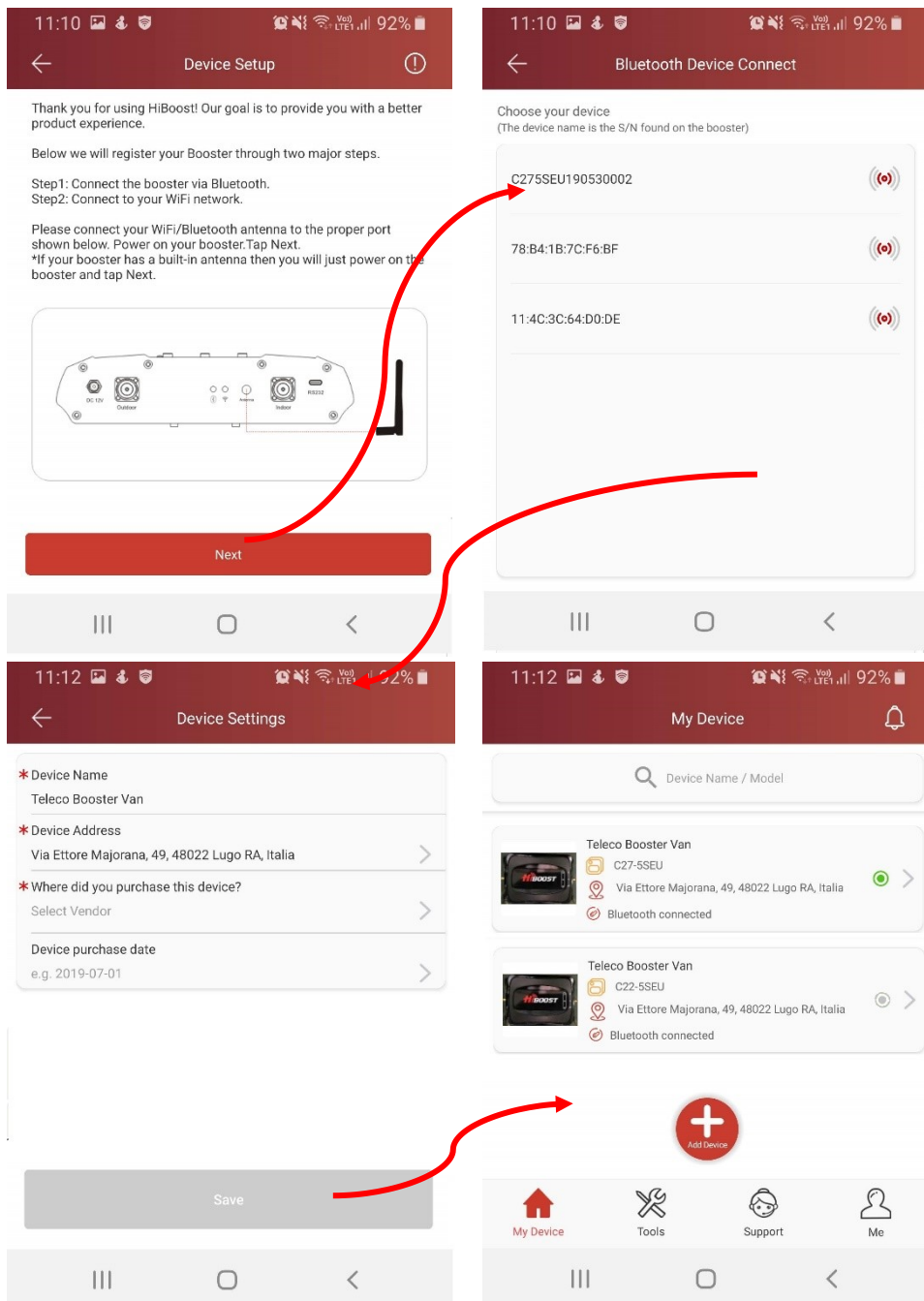
7.2 Systeembewaking

Selecteer na de registratie "+" om een nieuwe versterker te koppelen, afb. 6.



Afb. 6

Selecteer “Next”, afb. 7 en selecteer daarna de PhoneBoosterVan die u wilt bewaken. Selecteer het type configuratie en voer de gevraagde gegevens in. Door nu de afbeelding van de PhoneBoosterVan te selecteren gaat u naar een overzichtsscherm van waaruit u de werkingsstatus van elke afzonderlijke band kunt controleren.



Afb. 7

Als het alarmlampje dat in afb. 8 wordt weergegeven rood is, wordt er een afwijking/storing gemeld. In alarmcondities reset de signaalversterker automatisch alle versterkingen, om het mobiele telefoonnetwerk niet te "belasten" met storende signalen. **VERANDER IN DIT GEVAL DE POSITIE VAN DE BUITEN- EN BINNENANTENNE EN VERWIJDER ZE, AANGEZIEN HET ALARMSIGNAAL TE WIJTEN IS AAN DE LAGE RF-ISOLATIE.** Nadat de antennes zijn verwijderd, zet u de signaalversterker uit en weer aan.



Afb. 8

8 Problemen en oplossingen

PROBLEEM	OPLOSSING
De signaalversterker gaat niet aan.	Controleer of de voedingskabel goed aangesloten is.
De signaalversterker is ingeschakeld, maar de telefoon maakt geen verbinding met het netwerk, er is geen dekking.	Controleer of alle onderdelen van het systeem goed aangesloten zijn. Controleer terwijl het systeem uitgeschakeld is of het mobiele telefoonsignaal aanwezig is op het punt waar de buitenantenne is bevestigd. Wanneer er geen signaal is, betekent dit dat het gebied niet wordt bediend door mobiele telefoonoperators.
Goed signaalniveau maar slechte kwaliteit.	Controleer op apparatuur die het telefoonsignaal kan storen. Controleer de kwaliteit van het ontvangen signaal bij de telefoonoperator.
Het systeem wordt aangedreven maar dekking is niet wat wordt verwacht.	Controleer of er sprake is van een afwijking. Maak met de APP verbinding met de signaalversterker en controleer de versterkingsconfiguratie van de versterkingsketens.

9 Certificeringen

	RE en RED Met de CE-certificering verklaren wij dat onze producten in overeenstemming zijn met alle Europese normen op het gebied van gezondheid, veiligheid en bescherming van het milieu en de Radio Apparatuur Richtlijn RED (Radio Equipment Directive 2014/53/EU) die sinds 13 juni 2017 van kracht is.
	RoHS Al onze producten zijn ROHS conform en voldoen aan de beperking van de toepassing van schadelijke materialen.
	Recycling van het apparaat In de Europese Unie geeft dit symbool aan dat op het moment van verwijdering de laatste gebruiker die het apparaat gebruikt het product naar een recycling- en terugwinninginstallatie moet sturen. Raadpleeg het koopcontract of neem contact op met de leverancier van het apparaat voor informatie over de juiste verwijdering van het product.

Made in China



EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB

Notified Body Number **0700**



Winkel 4-105-0051-05

This is to certify that:
PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

Certificate No.	19-211647a
Manufacturer	Shenzhen Huaptec Co., Ltd
Address	3rd F.L.E BLDG, Sogood Science Park, SanWei community, Hangzhou Street Bao'an District, Shenzhen, China
Product Description	Vehicle cell phone signal booster; with GSM, WCDMA and LTE
Brand Name / Model Name	HiBoost / C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

The radio equipment meets the following essential requirements

Article 3.1 a): Health and Safety	Conform
Article 3.1 b): Electromagnetic Compatibility	Conform
Article 3.2: Effective and Efficient Use of Radio Spectrum	Conform
Additional Essential Requirements:	Not applicable

Date of issue: **09-10-2019** Expiry date: **09-10-2019**

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.
This version of this certificate replaces the certificate 19-211647, which is hereby withdrawn.



Weyre Hsu

10/9/2019 1:22 PM
Signed by Weyre Hsu
Notified Body

The attached Annex forms part of this certificate. This certificate consists of 3 pages.

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CERTIFICATE of Conformity

Reference No. : LCS190729008DR

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trademark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU,C27G-5S-EU-RV,C27G-3S-EU,C27G-3S-EU-RV

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU

IEC 62321-3-1:2013 IEC 62321-5:2013 IEC 62321-4:2013+AMD1:2017 CSV
IEC 62321-6:2015 IEC 62321-7-1:2015 IEC 62321-7-2:2017 IEC 62321-8:2017

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out. This certificate applies specifically to the sample investigated in our test reference number only.

The RoHS markings as shown below, can be affixed on the product after preparation of necessary technical documentation.

Other relevant Directives have to be observed.

RoHS

Date of issue: January 02, 2019



扫描查询真伪
Scan/Query authenticity

1 / 1

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CERTIFICATE of Conformity

Reference No. : LCS190729019AE

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trade Mark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

Opinion on the Essential Requirements

Article 3.1a): Health and Safety Conform

Article 3.1b): Electromagnetic Compatibility Conform

Article 3.2: Effective Use of the Radio Spectrum Conform

CE-marking

Marking Example (Class 1)



This certificate is issued in accordance with The RED2014/53/EU of the European Parliament and the Council and the mutual recognition of their conformity.

September 18, 2019

Date of Issue



Shenzhen LCS Compliance Testing Laboratory Ltd.
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扫码查询真伪
Scan, Query authenticity

Annex



Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.1.1 (2017-02)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEA
ETSI EN 301 489-50 V2.1.1 (2017-02)		
ETSI EN 303 609 V12.5.1 (2016-04)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEB
ETSI EN 301 908-1 V11.1.1 (2016-07)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEC
ETSI EN 301 908-11 V11.1.2 (2017-01)		LCS190729019AED
ETSI EN 301 908-15 V11.1.1 (2016-05)		
EN 50385:2002	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEE
EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2: 2013	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729020AS

General Remarks:

- This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service. Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
- This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for the Certificate.



Shenzhen LCS Compliance Testing Laboratory Ltd.
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扫码查询真伪
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10 Technische gegevens

RF parameters		Uplink	Downlink
Frequentiebanden	800MHz	832-862MHz	791-821MHz
	900MHz	880-915MHz	925-960MHz
	1800MHz	1710-1785MHz	1805-1880MHz
	2100MHz	1920-1980MHz	2110-2170MHz
	2600MHz	2500-2570MHz	2620-2690MHz
Max. versterking		50dB	
Maximum niveau		25dBm	8dBm
Voeding	5 – 16Vdc/500mA		
In/Out impedantie	50 Ohm		
V.S.W.R	≤ 4		
groepsvertraging	≤ 1us		
Frequentie Stabiliteit	≤ 0.01ppm		
Ripple	< 13dB		
Noise Figure @ max gain	< 12dB		
Werkingstemperatuur	-45/+55°C		
Opslagtemperatuur	-45/+80°C		
Relatieve vochtigheid	95%		
Afmetingen	171x112x31,5 mm		
Gewicht	0,55 kg		
Beschermingsgraad	IP40		
Binnenantenne			
Versterking	2,15 dBi		
Frequentie	698 – 2700MHz		
Diameter	160 mm		
Hoogte inclusief bevestiging	50 mm		
Stekker	N mannetje		
Buitenantenne			
Versterking	2,15 dBi		
Frequentie	689 – 2700MHz		
Afmetingen	85x67x96 mm		
Coaxkabel 50Ω	Lengte 3 meter – N mannetje/SMA mannetje		



Certificate Regulation 10

Certificate No. : 385967TRFEMC
Applicant : TELECO spa
Via Majorana, 49 Lugo (Ra) – Italy
Product Name : PhoneBoosterVan
Trade Name : TELECO
Main Test Model : PhoneBoosterVan
Test Standard : CISPR 25(2002)
ISO 7637-1(2002)
ISO 7637-2(2004)
ISO 11452-1(2005) + A1(2008)
ISO 11452-2(2004)
ISO 11452-3(2001)
ISO 11452-4(2011)

The EUT described above has been tested by us with the listed standards and found in compliance with the council directive **REGULATION 10 Revision 5 with amendment 1**, Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

5 November 2019



1	General information	75
2	Safety Warning	75
3	Presentation	75
4	Glossary of Terms	77
5	Package contents.....	78
6	Installation.....	79
6.1	Outdoor antenna	79
6.2	Indoor omnidirectional antenna	80
6.3	PhoneBoosterVan	80
6.4	LED description	81
6.5	Power Supply	81
7	System monitoring	81
7.1	APP Signal Supervisor download and setup	81
7.2	System monitoring.....	82
8	Problem and solution	84
9	Certification	85
10	Specifications	90

1 General information

This user manual describes design, installation, commissioning and maintenance of the mobile phone booster PhoneBoosterVan. Please, read user manual carefully before installing and maintaining the PhoneBoosterVan. The information in this manual is subject to change without prior notice.

2 Safety Warning



PhoneBoosterVan should follow system requirements of mobile signal enhancement equipment, assure good grounding and lightning protection.



PhoneBoosterVan power supply voltage should meet standards of security requirements; any operation should be carried out only after cutting off power in advance. Only the professional is authorized for the operation.



Do not dismantle machine, maintain or displace accessories by yourself. In this way the equipment can be damaged and you can even get an electric shock.



Do not open the PhoneBoosterVan, touch the module of PhoneBoosterVan or open the cover of module to touch the electronic components. The components will be damaged due to electrostatic discharge.



Keep away from heating equipment, because the PhoneBoosterVan will dissipate heat during working. Do not cover PhoneBoosterVan with anything that influences heat-dissipation.

3 Presentation

PhoneBoosterVan is designed to received and improve the mobile phone signal received from 800MHz – 900MHz – 1800MHz – 2100MHz – 2600MHz bands; after amplification the signal will be repeated in the neighborhood and inside the caravan. PhoneBoosterVan has an AGC system for the automatic gain control and output signal level control. The system is bi-directional, the outdoor antenna receives the signals from the cell tower and transmit it to the PhoneBoosterVan, the PhoneBoosterVan amplifies the signals and the indoor antenna sends it to your mobile device. In the same time the signal produced by your mobile device is also received by the indoor antenna, amplified by the PhoneBoosterVan and sent back to the cell tower through the outdoor antenna.

In Figure 1 PhoneBoosterVan block diagram.

NOTE: PhoneBoosterVan amplifies and repeat the mobile signal phone. If there aren't mobile signals in the place where we are, the PhoneBoosterVan is ineffective.

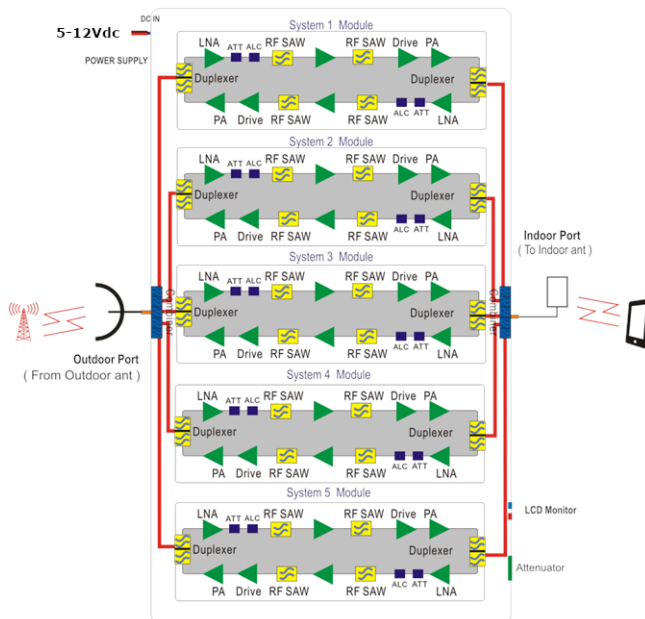


Figure 1. PhoneBoosterVan block diagram.

- **Embedded CPU:** self-adaptive intelligent system, very easy to use and install. Better performance is guaranteed even under complicated and constantly changing RF environment conditions;
- **ISO:** Intelligent isolation processing to avoid self-oscillation, quite wide adjusting range to stabilize the signal strength/quality for clearer voice/higher data speed and avoid interference with mobile network;
- **ALC:** Intelligent automatic level control, quite wide adjusting range to stabilize the output power and improve the signal quality for clearer voice and higher data download speed;
- **By SignalSupervisor APP** present in Google Play store for android system or App Store for iOS system, users can control in every place where they are the state of their PhoneBoosterVan;
- **Bluetooth** for the control of the PhoneBoosterVan by the APP **SignalSupervisor**;
- Elegant design, compact size, very low power consumption to minimize cost during operation and low heat dissipation.

4 Glossary of Terms

Item	Definition
800	Available on LTE800(832~862MHz/791~821MHz) network
900	Available on EGSM900(880~890MHz/925~935MHz) and PGSM900(890~915MHz/935~960MHz), WCDMA/UMTS900(880~915MHz/925~960MHz) networks
1800	Available on GSM/LTE1800(1710~1785MHz/1805~1880MHz) networks
2100	Available on 3G(WCDMA/UMTS2100) (1920~1980MHz/2110~2170MHz) networks
2600	Available on LTE2600(2500~2570MHz/2620~2690MHz) network
RF	Radio Frequency
ATT	Attenuation
ALC	Automatic Level Control
AGC	Automatic Gain Control
MGC	Manual Gain Control
LNA	Low Noise Amplifier
PA	Power Amplifier
dB	Decibel
dBm	Decibels relative to 1 milliwatt
UL	Uplink
DL	Downlink
Hz	Hertz
MHz	Megahertz
NF	Noise Figure

5 Package contents

	DESCRIPTION	FUNCTION
	Outdoor Antenna	Outdoor antenna must be attached to the roof of the caravan
	PhoneBoosterVan	Amplifier unit.
	Omnidirectional indoor antenna	Indoor antenna must be install on the ceiling of the caravan.
	3.5mm power supply cable.	3.5mm power supply cable.



Figure 2. PhoneBoostervan description.

6 Installation

6.1 Outdoor antenna

Outdoor antenna must be attached on the roof of the caravan, away from every object that could be a radio frequency shields. Connect antenna coaxial cable to the PhoneBoosterVan Outdoor Antenna SMA connector.

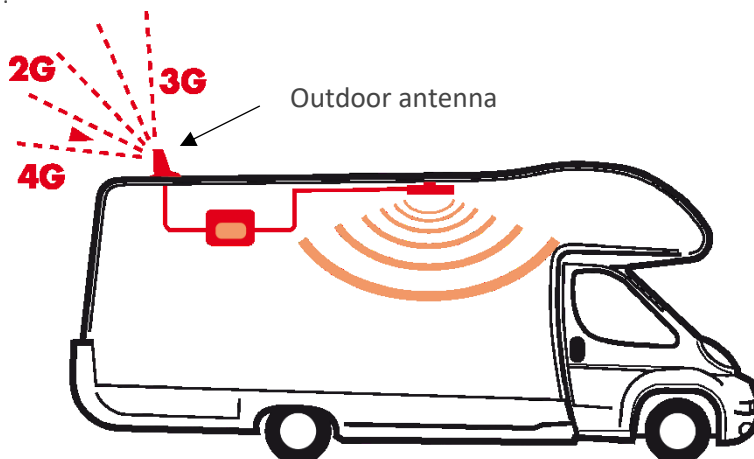


Figure 3. Outdoor antenna installation.

6.2 Indoor omnidirectional antenna

Install indoor omnidirectional antenna in the caravan ceiling, see Figure 4; if possible indoor antenna must be place in the middle of the caravan, then in this way we cover uniformly all the caravan space and the neighborhood caravan space. Connect antenna coaxial cable to the PhoneBoosterVan Indoor Antenna SMA connector and finally connect the power supply cable to the +12Vdc battery.

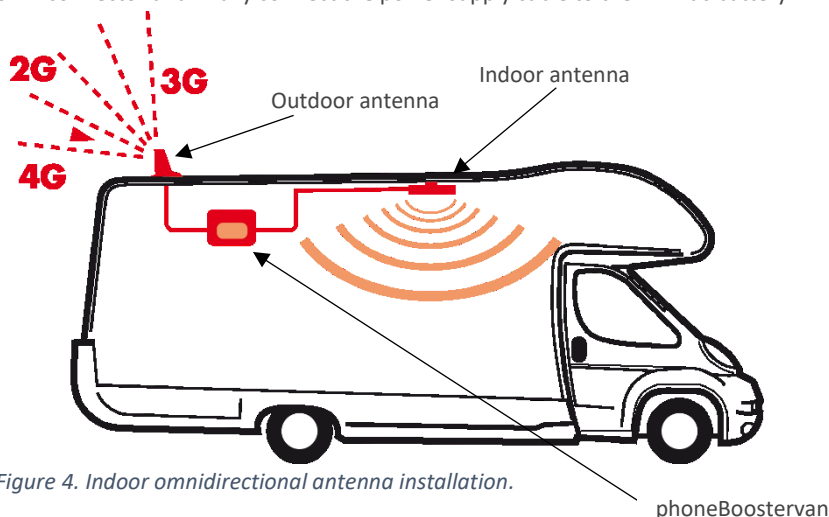


Figure 4. Indoor omnidirectional antenna installation.

NOTE

PhoneBoosterVan has an AGC system for the automatic gain control and output signal level control. Pay attention, before fixing definitively outdoor and indoor antenna verify if is satisfied the radio frequency antenna isolation. If the alarm led is red, see Figure 8, increase the outdoor and indoor antenna distance and re-check the led status; repeat the operation until the alarm led status will be blu color.

6.3 PhoneBoosterVan

Select a location for the PhoneBoosterVan that is free from excessive heat, direct sunlight, moisture and with proper ventilation. In the PhoneBoosterVan there are three status leds diodes, see Figure 2, to control system behavior. In Table 1 there are the leds meaning.

6.4 LED description

LED STATUS MEANING		
ALARM LED	Solid blue	Output level ok
	Blue, led blink every second	Maximum output level
	Red, blink every half second	PhoneBoosterVan disconnected for too high downlink signal
BLUETOOTH LED	Blue, led blink every second	Bluetooth not connected
	Blue, led blink every half second	Bluetooth connected

Table 1. LED description.

6.5 Power Supply

Connect the +12Vdc cable to the power supply battery. Pay attention to the cable polarity, red +12V, black ground cable.

7 System monitoring

By **SignalSupervisor APP** present in Google Play store for android system or App Store for iOS system, users can control in every place where they are, the state of their PhoneBoosterVan.

7.1 APP Signal Supervisor download and setup

After download and app installation, is necessary the registration with a valid e-mail address, activation code and a password. At this point the registration is complete, see Figure 5.

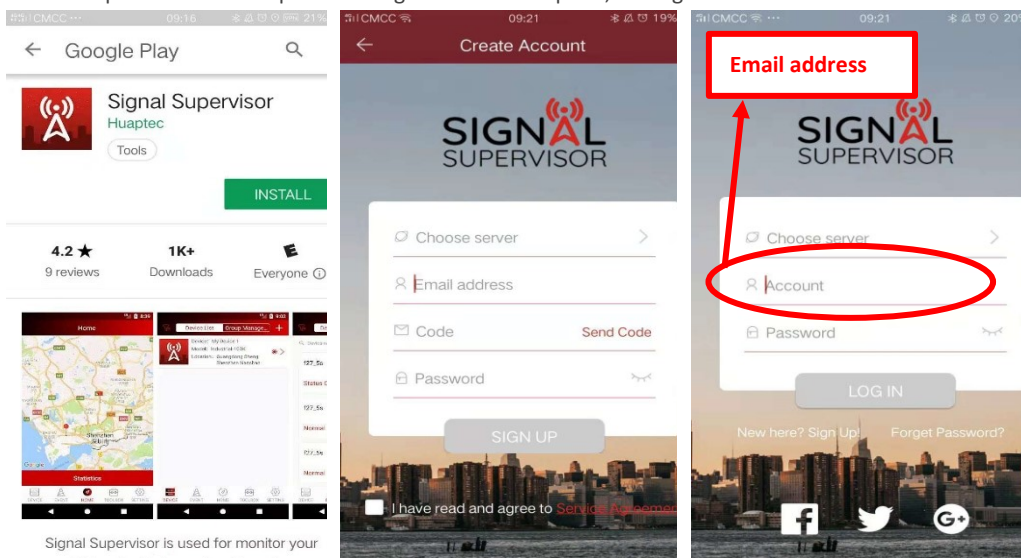


Figure 5.

7.2 System monitoring

After registration select “+” simbol, see Figure 6.

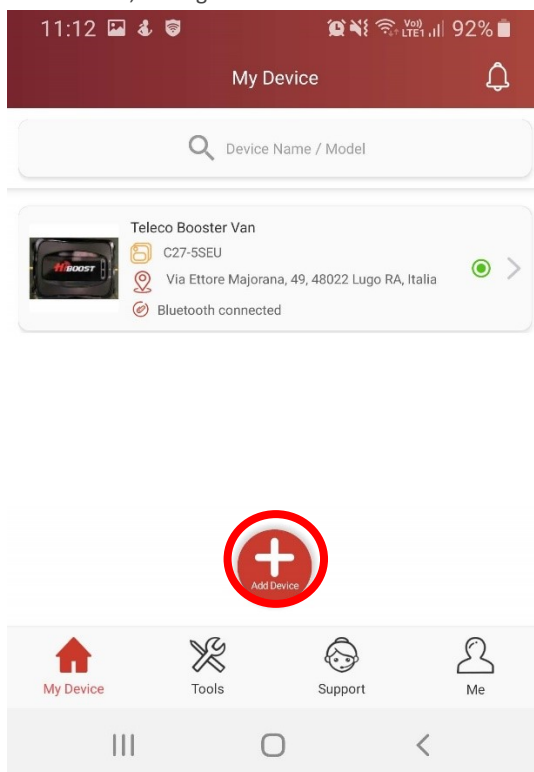


Figure 6.

Select “Next”, Figure 7, and in the list of the devices select your PhoneBoosterVan. After this selection we must select the configuration type. with or without wifi connection, and after this we can input location other informations about out Booster. In the next menu if we select our PhoneBoosterVan, we can see the status of every single band and state (Gain, Output Level, Isolation, etc), Figure 7.

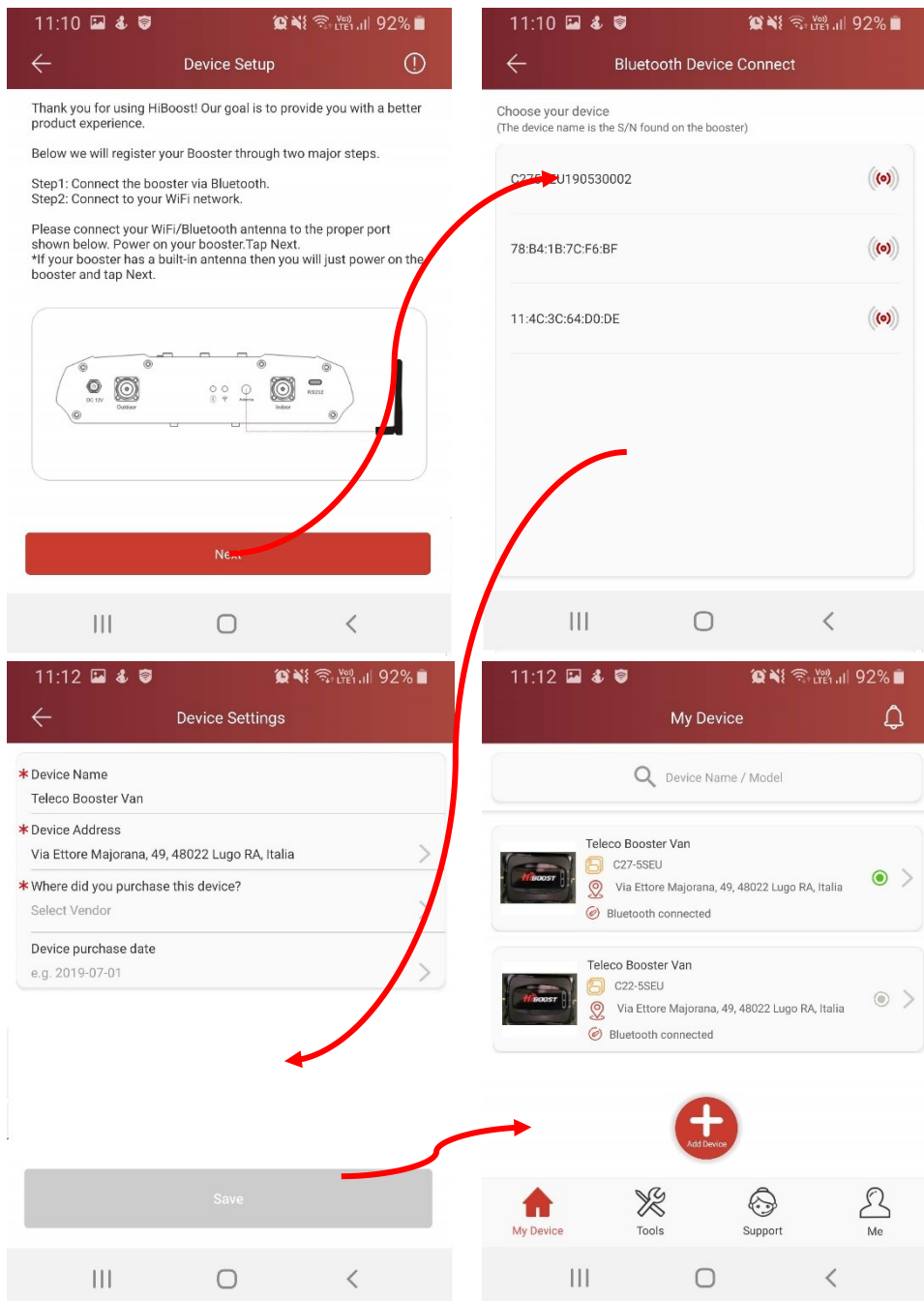


Figure 7.

If the alarm led is red color, see Figure 8, we have a bad behavior of the system, anomaly present. In this condition the PhoneBoosterVan switch-off to avoid bad interference with the BTS telephone operator. **In this case modify the position of the PhoneBoosterVan antennas, we must increase the distance/isolation between indoor and outdoor antenna;** after this operation reboot PhoneBoosterVan system and control if the diode is blue color.

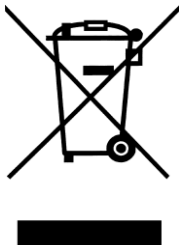


Figure 8.

8 Problem and solution

PROBLEM	SOLUTION
The PhoneBoosterVan doesn't switch-on.	Control the power supply cable connection.
PhoneBoosterVan is on but the smartphone doesn't work, no signal.	Verify the right connections of every system parts. Switch-off the PhoneBoosterVan and verify if there is a phone signal in the position of the outdoor antenna. If there isn't cell phone signal, in that place there isn't telephone coverage.
Good level but bad quality.	Verify if there are interferences by other transmission/receiving system. Verify the cell phone signal quality with the operator.
The system is power on but coverage isn't that expected.	Verify if the alarm led is red. Verify by SuperSignalApp if everything work well.

9 Certification

	CE and RED With CE certification we declare that our products respect all European law about healthy, safety, security and environment respect, and RED rules (Radio Equipment Directive 2014/53/EU) June 2017.
	RoHS All our products are RoHS compliant.
	Component recycling In the EU this symbol indicate that at the end of life the system, should not be disposed as general household waste. You should look for appropriate recycling facilities and systems for the disposal of there products.

Made in China



EU-TYPE EXAMINATION (MODULE B) CERTIFICATE

Radio Equipment Directive (RED) 2014/53/EU

PHOENIX TESTLAB
Notified Body Number 0700



This is to certify that:
PHOENIX TESTLAB did undertake the relevant type examination procedures for the radio equipment identified below which was found to be in compliance with the essential requirements of Radio Equipment Directive (RED) 2014/53/EU subject to any conditions in the annex attached hereto.

Certificate No.	19-211647a
Manufacturer	Shenzhen Huapiao Co., Ltd
Address	3rd FL/E BLDG, Sogood Science Park, SanWei community, Hangcheng Street Bao'an District, Shenzhen, China
Product Description	Vehicle cell phone signal booster; with GSM, WCDMA and LTE
Brand Name / Model Name	HiBoost / C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

The radio equipment meets the following essential requirements

Article 3.1 a): Health and Safety	Conform
Article 3.1 b): Electromagnetic Compatibility	Conform
Article 3.2: Effective and Efficient Use of Radio Spectrum	Conform
Additional Essential Requirements:	Not applicable

Date of issue: **09-10-2019** Expiry date: **09-10-2019**

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached annex are complied with. The conditions for the validity of this certificate are listed in the Annex.
This version of the certificate replaces the certificate 19-211647, which is hereby withdrawn.



Signature

The attached Annex forms part of this certificate. This certificate consists of 3 pages.

10/9/2019 1:22 PM
Signed by Wayne Hsu
Notified Body

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CERTIFICATE of Conformity

Reference No. : LCS190729008DR

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG, Sogood Science Park, SanWei community,
Hangcheng Street, Bao'an District, Shenzhen, China

Trademark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU,C27G-5S-EU-RV,C27G-3S-EU,C27G-3S-EU-RV

The submitted products have been tested by us with the listed standards and found in compliance with the following European Directives:

The RoHS Directive 2011/65/EU and its amendment directives 2015/863/EU

IEC 62321-3-1:2013 IEC 62321-5:2013 IEC 62321-4:2013+AMD1:2017 CSV
IEC 62321-6:2015 IEC 62321-7-1:2015 IEC 62321-7-2:2017 IEC 62321-8:2017

The tests were performed in normal operation mode. The test results apply only to the particular sample tested and to the specific tests carried out. This certificate applies specifically to the sample investigated in our test reference number only.

The RoHS markings as shown below can be affixed on the product after preparation of necessary technical documentation.

Other relevant Directives have to be observed.

RoHS

Date of Issue: January 02, 2019



扫码查询真伪
Scan, Query authenticity
1 / 1

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Http://www.lcs-cert.com Email: webmaster@lcs-cert.com



CERTIFICATE of Conformity

Reference No. : LCS190729019AE

Applicant : Shenzhen Huaptec Co.,Ltd

Address : 3rd FL, E BLDG,Sogood Science Park, SanWei community,
Hangcheng Street,Bao'an District, Shenzhen, China

Trade Mark : HiBoost

Product : Vehicle cell phone signal booster

Model(s) : C27G-5S-EU, C27G-5S-EU-RV, C27G-3S-EU, C27G-3S-EU-RV

Opinion on the Essential Requirements

Article 3.1a): Health and Safety	Conform
Article 3.1b): Electromagnetic Compatibility	Conform
Article 3.2: Effective Use of the Radio Spectrum	Conform

CE-marking

Marking Example (Class 1)



This certificate is issued in accordance with The RED2014/53/EU of the European Parliament and the Council and the mutual recognition of their conformity.

September 18, 2019

Date of Issue



Shenzhen LCS Compliance Testing Laboratory Ltd.
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1 / 2



扫码查询真伪
Scan, Query authenticity

Annex



Applied Standards and Test Reports

Standard	Laboratory	Test Report Number
ETSI EN 301 489-1 V2.1.1 (2017-02) ETSI EN 301 489-50 V2.1.1 (2017-02)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEA
ETSI EN 303 609 V12.5.1 (2016-04)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEB
ETSI EN 301 908-1 V11.1.1 (2016-07) ETSI EN 301 908-11 V11.1.2 (2017-01) ETSI EN 301 908-15 V11.1.1 (2016-05)	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEC LCS190729019AED
EN 50385:2002	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729019AEE
EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2: 2013	Shenzhen LCS Compliance Testing Laboratory Ltd.	LCS190729020AS

General Remarks:

- This conformity assessment is limited to the essential requirements of the RED Directive. Only products fulfilling all essential requirements of all applicable new approach directives may be placed on the market and put into service.
Products in compliance with all provisions of the applicable directives providing for the CE marking must bear this marking.
- This device also contains frequency bands that are not operational in EU member states. Only the frequency bands used in European Union have been assessed for this Certificate.



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2 / 2



扫码查询真伪
Scan, Query authenticity

10 Specifications

RF Parameters		Uplink	Downlink
Frequency bans	800MHz	832-862MHz	791-821MHz
	900MHz	880-915MHz	925-960MHz
	1800MHz	1710-1785MHz	1805-1880MHz
	2100MHz	1920-1980MHz	2110-2170MHz
	2600MHz	2500-2570MHz	2620-2690MHz
Gain Max		50dB	
Maximum level		25dBm	8dBm
Power supply	5 – 16Vdc/500mA		
Impedence In/Out	50 ohm		
V.S.W.R	≤ 4		
Group delay	≤ 1us		
Frequency Stability	≤ 0.01ppm		
Ripple	< 13dB		
Noise Figure @ max gain	< 12dB		
Working temperature	-45/+55°C		
Storing temperature	-45/+80°C		
Umidity	95%		
Dimension	171x112x31.5 mm		
Weight	0.55 Kg		
Protection	IP40		
Indoor antenna			
Gain	2,15 dBi		
Frequency	698 – 2700MHz		
Dimensio-diameter	160 mm		
Total height	50 mm		
Connector	N male		
Outdoor antenna			
Gain	2,15 dBi		
Frequency	689 – 2700MHz		
Dimension	85x67x96 mm		
Coax cable 50Ω	Lenght 3 meters – N male/SMA male		



Certificate Regulation 10

Certificate No. : 385967TRFEMC
Applicant : TELECO spa
Via Majorana, 49 Lugo (Ra) – Italy
Product Name : PhoneBoosterVan
Trade Name : TELECO
Main Test Model : PhoneBoosterVan
Test Standard : CISPR 25(2002)
ISO 7637-1(2002)
ISO 7637-2(2004)
ISO 11452-1(2005) + A1(2008)
ISO 11452-2(2004)
ISO 11452-3(2001)
ISO 11452-4(2011)

The EUT described above has been tested by us with the listed standards and found in compliance with the council directive **REGULATION 10 Revision 5 with amendment 1**, Concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

5 November 2019





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